



Radio Spectrum Assurance

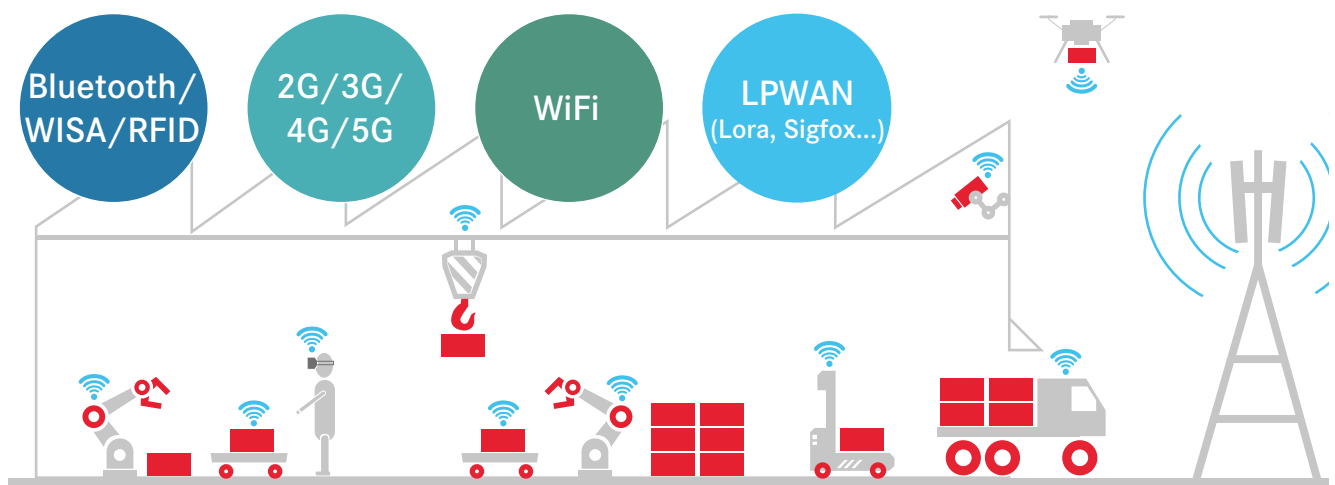
Smart Industry Solutions

Independent and integrated solutions for the planning, analyses, supervision and management of radio communication infrastructures

Spectrum Management in the Industrial Sector

Highest density of network infrastructure

Wireless technologies are becoming increasingly important in the industrial environment. In the context of digital transformation, the term industry 4.0 describes a concept in which high-performance production systems are combined with state-of-the-art communication technology. Numerous wireless communication systems have already been established in the industrial environment. The variety ranges from narrow-band data transmission via RFID to high-end systems in which massive amounts of data have to be transported, e.g. virtual and augmented reality for production support. And the demand for wireless technologies is constantly increasing.



Radio spectrum user and services

The implementation of wireless communication systems poses a number of challenges. This includes the selection of technology, planning and conception of the system. In addition, the large number of different elements makes it difficult to keep track of all established system components. Furthermore, multiple systems that run in parallel are increasingly causing coexistence problems. At the same time it is possible that the available radio spectrum is not fully exploited.

However, even perfectly coordinated and optimized communication systems can be affected by critical disturbances, which in the worst case can lead to a standstill of the production plant or even to personal injury. Permanent radio monitoring systems can help to detect and locate radio interference immediately.

Did you ever wonder ...?

- how much wireless equipment do you have on site? Are they safe?
- if those equipment are in line with ITU- and your national authority regulations?
- if those equipment fulfill every legal requirements?
- if there are any interferences between some equipment and your entire infrastructure?
- if in case of trouble you can quickly identify the concerned equipment and their owner?
- about the potential financial damages that arise from failure of your radio communications equipment and network?
- if you have taken into consideration all radio communication network aspects while planning new infrastructure?
- how much added value you and your partners are generating thanks to an efficient and robust network connectivity?

→ **We have the answers ...**

Our expertise

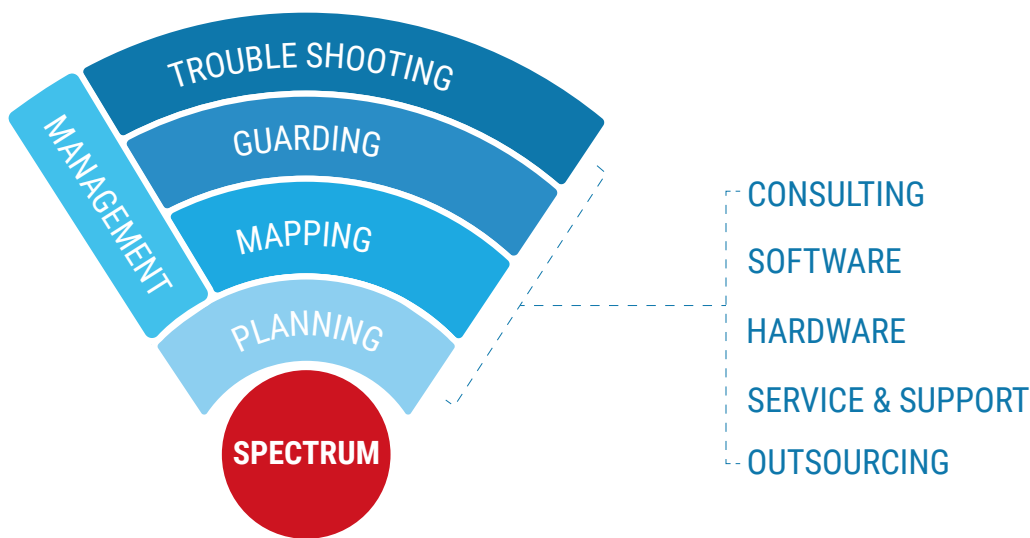
Ensuring efficient radio spectrum management means avoiding interference, detecting, identifying and locating signal intrusions, and organizing evolving radio infrastructure. This requires a full solution portfolio of products and services in the area of wireless communications – starting with know-how, hardware and software.

LS telcom, as an **independent and integrated solution provider** for wireless communications, offers outstanding expertise and technology, which allows you to keep

control of your radio communications infrastructure. LS telcom supports airports by giving them solutions to secure their complex and versatile radio communications infrastructure, so they can assure and guarantee a safe, sustainable and serviceable security and business model.

At the customer site LS telcom plans, analyses, supervises and manages every available radio communications infrastructure thanks to its own software and hardware.

Integrated radio assurance solution



Business Portfolio

- Planning

Services and tools for conception, design, realization and optimization of reliable, highly available and safe indoor and outdoor radio networks.
- Management

Workflow-based approval and management processes for radio communications infrastructure and users. Management solution based on a central spectrum database, co-existence, analysis, governance and internal rules.
- Mapping

Spectrum inventory measurements and coverage simulations to validate the current spectrum usage. Identification, location and assessment of unknown transmissions. Improving the data basis for future decisions.
- Guarding

Permanent radio monitoring as a preventive early-warning system to avoid, identify, locate and solve network problems. Avoiding problems preferably before they become safety or business critical.
- Trouble shooting

Competent help with problems and radio interference. Identification, localization and analysis of interferences.

Your ONE-STOP ENTERPRISE for all your radio assurance needs.

Where you can benefit



One of our success stories: Amsterdam Airport Schiphol

Amsterdam Airport Schiphol commissioned LS telcom for frequency management and licensing to become a "Leading Smart Digital Airport".

The challenge:

Ensuring a safe, interference- and incident free radio environment at the airport while providing enough radio frequencies for all radio networks, services and applications required at the airport under the growing demand from all customers for wireless air and ground communications.

The solution:

Development of a general licensing framework and introduction of an automated spectrum management system including a frequency database and radio monitoring capabilities accompanied by consulting and supporting professional services by LS telcom experts.

The result:

Amsterdam Airport Schiphol now has full visibility of the used radio spectrum and infrastructure. They deliver their customers excellent, highly reliable, interference-free and save radio services at the airport. The airport can detect incidents, misuse and illegal frequency use and react immediately. This contributes to the general safety at Schiphol Airport and improves its overall positive passenger experience significantly.



For further information, please visit www.LStelcom.com or contact us:

LS telcom AG
Im Gewerbegebiet 31-33
77839 Lichtenau
Germany

+49 7227 9535 600
+49 7227 9535 605
info@LStelcom.com
www.LStelcom.com

LS telcom
Smart Spectrum Solutions