

27<sup>th</sup> Annual

# Spectrum summit

Info Magazine Spectrum Summit 2023

**LS** telcom  
Smart Spectrum Solutions



## Conference

Learn more about our speakers and panelists

## General Info

What you need to know about the event

## Demo Stations

All streams and topics at a glance

## WiFi Voucher

To use our free WiFi, please connect to the „LS\_Guest\_Internet“ network and enter the password „gakugabe89“.

[www.LStelcom.com](http://www.LStelcom.com)

# Editorial

## Welcome to the 27<sup>th</sup> annual Spectrum Summit!

After two years of digital editions due to the COVID-19 pandemic, we are thrilled to gather once again for a live event at the headquarters of LS telcom AG in Lichtenau.

This year's conference carries the compelling theme of „Radio Spectrum: Accelerating Digital Transformation.“ As we navigate an increasingly interconnected world, the role of radio spectrum in driving digital transformation has become more crucial than ever. Spectrum has the power to propel innovation, empower industries and shape the future of communication technologies.

The Spectrum Summit has long been recognized as a leading platform for industry experts, thought leaders, and policymakers to come together, exchange ideas and explore the frontiers of spectrum management. Through engaging discussions, informative sessions and collaborative networking opportunities - this conference has consistently provided valuable insights into the evolving landscape of radio spectrum utilization.

This year's event promises to be a remarkable milestone as we reconnect in person. We have curated a diverse program that encompasses a wide range of topics. Our esteemed lineup of speakers will share their expertise, experiences and visions, inspiring all attendees to embrace the transformative power of radio spectrum.

We would like to extend our heartfelt gratitude to all the participants and partners who have contributed to the success of the Spectrum Summit throughout the years. Your unwavering support has been instrumental in making this event a catalyst for progress in the field of spectrum management.

On behalf of the LS telcom team, we invite you to immerse yourself in this dynamic and stimulating conference. Engage in thought-provoking discussions, forge new connections, and uncover the limitless possibilities that lie within the realm of radio spectrum.

Welcome to the Spectrum Summit 2023!

**Roland Götz**  
**Chief Operating Officer, LS telcom AG**



# Conference Program

Lichtenau, 28<sup>th</sup> June 2023

## “Radio Spectrum: Accelerating Digital Transformation!”

8:30 ■ **Registration & Welcome Coffee**

9:30 ■ **Welcome & Introduction to the 27<sup>th</sup> Annual Spectrum Summit**

Dipl.-Ing. Roland Götz, Chief Operating Officer | LS telcom AG

9:40 ■ **Panel discussion 1: Unlocking the Potential of Dynamic Spectrum Management**

**Moderation:** Saul Friedner, Director Spectrum Services and Business Development | LS telcom AG

- Speakers:**
- Frank Bodewes, Advisor Strategy | Dutch Authority for Digital Infrastructure
  - Dr. Heikki Kokkinen, CEO | Fairspectrum Oy
  - Prof. Dr.-Ing. M<sup>a</sup> Dolores Pérez Guirao, Professor | Ostfalia University of Applied Sciences

10:45 ■ **Coffee Break**

Coffee Cart - Courtyard

11:15 ■ **Studio Magazine 1: A Clean Spectrum - the Basis for Successful Events**

**Moderation:** Dr. Witold Thaul, Head of Strategy & ICT | LS telcom AG

- Speakers:**
- George Saliba, Managing Director | Smart Spectrum Solutions Providers S.A.L
  - Ayesha Amanat, Spectrum Planning Specialist | Communications Regulatory Authority Qatar
  - Michael Henderson, Director of Engineering | RadioSoft Inc.
  - Dr. Andreas Wilzeck, Head of Spectrum Policy and Standards Pro Audio | Sennheiser electronic GmbH & Co. KG

12:15 ■ **Lunch Break**

Lunch & Networking Area

13:45 ■ **Panel discussion 2: Using Licensing to Stimulate Innovation and Growth**

**Moderation:** Martin Sims, Managing Director | PolicyTracker

- Speakers:**
- Yulia Kulikova, Director of Regulatory Affairs | Myriota Pty
  - Koen Mioulet, Secretary and Co-founder | EUWENA
  - Amit Nagpal, Partner | Aetha Consulting Limited

14:45 ■ **Coffee Break**

Coffee Cart - Courtyard

15:15 ■ **Studio Magazine 2: Lessons Learnt from Licensing, Planning and Implementing Private Wireless Networks so far**

**Moderation:** Heiko Ross, Director Sales & Marketing | LS telcom AG

- Speakers:**
- Edwin Sutedjo, Business Development Manager | Nokia
  - Daniel Mai, Director Industrial Wireless Communication | 5G-ACIA
  - Ralf Baron, Project Manager “Innovation Project 5G Campus Network” | SWR

16:15 ■ **Farewell Note**

16:20 ■ **End of Conference**

Subject to changes

# Speakers, Moderators & Panelists

Lichtenau, 28<sup>th</sup> June 2023

## Panel 1: Unlocking the Potential of Dynamic Spectrum Management

Dynamic Spectrum Management has enabled regulators to offer greater access to spectrum and gives users flexibility in spectrum use. As demand for spectrum continues we can expect to see innovation in commercial dynamic spectrum management solutions and approaches to ensure industry developments can keep pace with demand.

In this panel session, we will explore the potential of future dynamic spectrum management systems, how new agile systems could improve the functionality of spectrum management processes, and the practicalities of developing and implementing such systems.

### Moderation:



**Saul Friedner**

Director Spectrum Services and Business Development | LS telcom AG

### Panelists:



**Frank Bodewes**

Advisor Strategy | Dutch Authority for Digital Infrastructure

**Dynamic Spectrum Management in Practice, a Tough Nut to Crack**



**Dr. Heikki Kokkinen**

CEO | Fairspectrum Oy

**Dynamic Spectrum Access (DSA) and its Applications in Europe**



**Prof. Dr.-Ing. Mª Dolores Pérez Guirao**

Professor | Ostfalia University of Applied Sciences

**Dynamic Spectrum Access (DSA) technology for Local 5G Networks**

## Studio Magazin 1: A Clean Spectrum - the Basis for Successful Events

Wireless equipment has become increasingly essential in the implementation of special events. Wireless cameras, microphones, television broadcasting, satellite communication, sensor technology - and the sometimes thousandfold of live streaming private events. Delays of transmissions, interferences or even outages or failures are not an option. As the requirements for sports, music, political, or cultural events grow, a clean and well-managed spectrum is necessary for success. This studio magazine will explore how major international or national special events under the supervision and organization of national regulators, as well as big local events under the organization of a venue operator, can achieve a clean and well-managed spectrum.

### Moderation:



#### **Dr. Witold Thaul**

Head of Strategy & ICT | LS telcom AG

### Panelists:



#### **George Saliba**

Managing Director | Smart Spectrum Solutions Providers S.A.L

**mySPECTRA Special Event Module: A Proven and Reliable Solution for Efficient Spectrum Management in Mega-Events**



#### **Ayesha Amanat**

Spectrum Planning Specialist | Communications Regulatory Authority Qatar



#### **Michael Henderson**

Director of Engineering | RadioSoft Inc.

**Spectrum Monitoring for Large Sporting Events**



#### **Dr. Andreas Wilzeck**

Head of Spectrum Policy and Standards Pro Audio | Sennheiser electronic GmbH & Co. KG

**Next Generation Pro Audio: Introduction to Wireless Multi-Channel Audio Systems (WMAS)**

# Speakers, Moderators & Panelists

Lichtenau, 28<sup>th</sup> June 2023

## Panel 2: Using Licensing to Stimulate Innovation and Growth

Once a rather dry subject, spectrum licensing is now seen as a multi-purpose tool which can unlock the potential of a variety of technologies. Many countries regard local licensing as a key policy lever in ensuring the success of 5G verticals and the rise of direct to phone satellite services has rekindled debate about pan-European satellite licences. But not to be forgotten is the huge economic growth generated by the national exclusive licences used in the mobile sector.

### Moderation:



**Martin Sims**

Managing Director | Policy Tracker

### Panelists:



**Yulia Kulikova**

Director of Regulatory Affairs | Myriota Pty

**Facing a Giant: NGSOs and Worldwide Licensing**



**Koen Mioulet**

Secretary and Co-founder | EUWENA

**The Economic Impact of Spectrum Availability for Enterprise Wireless Networks**



**Amit Nagpal**

Partner | Aetha Consulting Limited

**Where are Exclusive National Licences most Appropriate?**

## Studio Magazin 2: Lessons Learnt from Licensing, Planning and Implementing Private Wireless Networks so far

Regulators worldwide have started introducing progressive licensing approaches to award spectrum in different bands for private wireless networks. Revolution meets evolution in terms of licensing and technology. Listen and learn from multiple stakeholders about challenges and opportunities of private wireless networks.

### Moderation:



**Heiko Ross**

Director Sales & Marketing | LS telcom AG

### Panelists:



**Edwin Sutedjo**

Business Development Manager | Nokia

**Ease-of Use, Ecosystem and Business Critical Use Cases to Quickly Gain Value of Private Campus Networks**



**Daniel Mai**

Director Industrial Wireless Communication | 5G-ACIA

**Industrial 5G – Dedicated to the Industry**



**Ralf Baron**

5G Projectmanager / Head of Broadcastsystem Video | SWR

**SWR 5G Campus Network - Towards Nomadic Use**



# Smart Spectrum Solutions...

On this page, we aim to provide you with a snapshot of the most pertinent trends and thought-provoking topics that are shaping our work today. These insights are the culmination of extensive research and experience, continuous learning, and our deep commitment to staying at the forefront of innovation.

## E-Government & E-Licensing

Our mySPECTRA spectrum management system sets new standards in usability and performance, ensuring optimal use of limited radio spectrum with cutting-edge technology and vast experience.



**READY FOR AN UPGRADE?**

**E-Government & E-Licensing with mySPECTRA**

- Paperless & business process-driven
- Flexible degree of automation & configurability
- Reproducible & trustworthy
- Web-based & cloud-ready

For more information on our mySPECTRA solution, please visit our website at [www.LSdatacom.com](http://www.LSdatacom.com).

**LS telcom**  
Smart Spectrum Solutions

## ITU World Radio Conference 2023

WRC-23 in Dubai, 20 Nov - 15 Dec 2023, brings together national authorities, telecom regulators, and industry representatives for the ITU World Radiocommunication Conference.



**CAN YOU SEE WHAT IS ON THE HORIZON?**

**Support & consulting services for WRC-23**

- Overview of WRC agenda items
- Evaluation of your spectrum policy & strategy
- Impact analysis on your organization
- Preparation of required actions based on outcomes

For further information on how LS telcom may help you in the preparation and after the WRC, please visit our website at [www.LSdatacom.com](http://www.LSdatacom.com).

**LS telcom**  
Smart Spectrum Solutions

## Spectrum Monitoring

LS OBSERVER - Automated spectrum monitoring, geolocation and direction finding with powerful software and hardware. Visualize RF measurements with Spectrum-Map's big data tools.



**NEXT GENERATION SPECTRUM MONITORING**

**LS OBSERVER software & hardware**

- ITU-compliant spectrum monitoring
- Direction finding & geolocation (TDOA, GROA+®)
- Automated AI-driven workflows
- Control of 3<sup>rd</sup> party equipment (R&S, Narda, CRFS, TCI, etc.)

For more information on our spectrum monitoring solutions, please visit our website at [www.LSdatacom.com](http://www.LSdatacom.com).

**LS telcom**  
Smart Spectrum Solutions

## Artificial Intelligence

AI is about to revolutionize various industries and improve considerably efficiency. The key-point of our spectrum management and monitoring solutions is automation - we use AI to support clients even better!



**ARTIFICIAL INTELLIGENCE**

**Applications in spectrum monitoring**

- Anomaly & interference detection
- Signal classification
- DF in-field accuracy tuning

and more to come...

For more information on our artificial intelligence solution, please visit our website at [www.LSdatacom.com](http://www.LSdatacom.com).

**LS telcom**  
Smart Spectrum Solutions



## Special Events

Well-managed spectrum is crucial for successful sports, music, political and cultural events. Our solutions ensure clean spectrum in time-limited circumstances.



**SPECIAL EVENTS  
WIRELESS CHALLENGES**

**High demand for spectrum**

- Large quantity of wireless equipment
- Limited area & time period
- Foreign spectrum users & domestic licensees
- High risk of interference

 For more information on our special event solutions, please visit our website at [www.LStelcom.com](http://www.LStelcom.com)

**LS telcom**  
Smart Spectrum Solutions

## Smart Spectrum Services

LS telcom's spectrum management team handles radio environment control, licensing, and approvals, freeing you to focus on other tasks.



**SMART SPECTRUM SERVICES  
FOR SMART INDUSTRIES**

**Outsourcing of RF & spectrum tasks**

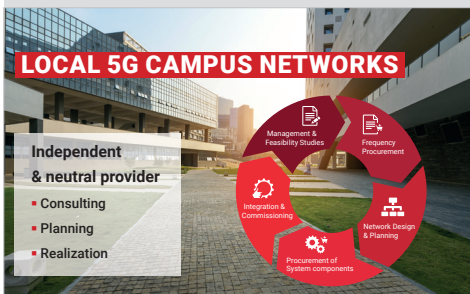
- Spectrum Management as-a-Service
- Spectrum Monitoring as-a-Service
- RF planning & modelling
- Interference & coexistence analysis

 For more information on our critical communications solutions, please visit our website at [www.LStelcom.com](http://www.LStelcom.com)

**LS telcom**  
Smart Spectrum Solutions

## Private Campus Networks

We offer expertise and knowledge for private campus networks, helping you optimize your local network for individual use cases from analysis to implementation.



**LOCAL 5G CAMPUS NETWORKS**

**Independent & neutral provider**

- Consulting
- Planning
- Realization


**Management & Feasibility Studies**

**Frequency Procurement**

**Integration & Commissioning**

**Network Design & Planning**

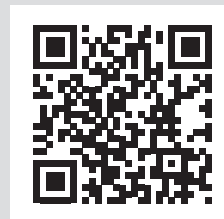
**Procurement of Systems components**

 For more information on our local 5G campus network solutions, please visit our website at [www.LStelcom.com](http://www.LStelcom.com)

**LS telcom**  
Smart Spectrum Solutions

Please find more information about our products and services:

[www.lstelcom.com](http://www.lstelcom.com)



# Demo Station...

For individual discussions and presentations of functionalities of our products we have prepared three demo stations in Building 5 on the 2<sup>nd</sup> floor. You can prebook an individual session based on the link you have received within your invitation or at the info point. In addition, we will be available during the breaks on Monday & Tuesday and during the entire day on Wednesday.

## Demo Station 01: CHIRplus\_BC & CHIRplus\_TC

Building 5 | Floor 2



### Design, planning, optimization & coordination of broadcast networks

- Advanced SFN planning capabilities
- (F)eMBMS network planning
- HTHP (High tower high power) networks
- ITU compliant



CHIRplus\_BC



www.LStelcom.com



### User-friendly & efficient planning of reliable radio networks

- Supporting different technologies (Microwave, IoT, SCADA, TETRA, 4G, 5G, ...)
- Interactive link engineering
- Coverage & interference assessment
- Channel assignment



CHIRplus\_TC



www.LStelcom.com

## Demo Station 02: SPECTRAplan, SPECTRAemc

Building 5 | Floor 2



### Management of frequency plans, spectrum engineering & technical frequency analysis

- Consideration of regulatory framework
- Compatibility analysis for all frequency bands
- Automation of technical studies
- Channel assignment



SPECTRAplan & SPECTRAemc



www.LStelcom.com

## Aemc & mySPECTRA



### Web-based, workflow-driven, automated spectrum management

- Truly business process-driven
- Flexible degree of automation
- Highly configurable
- Web-based & natively cloud-ready



### mySPECTRA



[www.LStelcom.com](http://www.LStelcom.com)

## Demo Station 03: LS OBSERVER & SpectrumMap

Building 5 | Floor 2



### Next generation spectrum monitoring system

- ITU-compliant RF monitoring, DF, TDOA & GROA+®
- Interface to mySPECTRA
- Automated AI-driven workflows
- Control of 3rd party equipment (R&S, Narda, TCI, etc.)



### LS OBSERVER



[www.LStelcom.com](http://www.LStelcom.com)



### Big data visualization of RF measurements

- Continuous heatmaps for spectrum coverage, usage & radiation
- Real-world data foundation to support spectrum policy
- Localize dead spots, overloads, illegal emitters & interference



### SpectrumMap



[www.LStelcom.com](http://www.LStelcom.com)

## Are you interested in a demo session about our solutions during the Spectrum Summit week?

The colleagues at the info-point will be glad to arrange a demo session for you.



# Event Location



<p><b>Networking Lounge / Building 6</b></p> <p> Lunch &amp; Networking</p>	<p><b>Conference / Building 5</b></p> <p> Casino/Conference (Floor 4)</p> <p> Reception (Entrance)</p>
<p><b>Courtyard</b></p> <p> Coffee Cart</p>	<p> Restroom (Floor 2)</p> <p> Information (Entrance)</p> <p> Prayer Room (Floor 3)</p> <p> Training-Center (Floor 2)</p>

## // Shuttle Times

# Shuttle Service



Should you have different requirements, e.g. to Baden-Baden train station and Baden-Baden city, please inform us at the infopoint.

Wednesday (June 28 <sup>th</sup> )		Departure
<b>BADEN-BADEN</b>	Holiday Inn Express	08:00
	Schweizer Hof *	08:00
<b>BÜHL</b>	Hotel Sternen	08:30
<b>LICHTENAU</b>	Hotel Rössel	08:40
	Hotel Blume	08:45
<b>Afternoon Shuttle Service to Baden-Baden</b>		
<b>LS telcom HQ</b>		17:00
		18:30

\* also guests from Holiday Inn Express Hotel and Hotel am Festspielhaus Bayerischer Hof

For further information please visit [www.LStelcom.com](http://www.LStelcom.com) or contact us:

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