![Fraunhofer IIS logo]

Division Engineering of Adaptive Systems EAS of Fraunhofer IIS

Industrial Wireless Communication

Reliable wireless communication systems in industry

In the field of industrial automation, wireless communication offers key advantages over wired solutions. However, numerous factors and challenges must be considered, such as neighboring wireless systems, variable propagation conditions or faulty configurations.

To address these issues, we developed innovative solutions to diagnose industrial wireless networks ranging from tailored analysis to permanent monitoring. These solutions provide detailed insights into factors of your network status such as link quality, stability, transmission reserves and transmission problems. We advise and support you with the monitoring, fault diagnosis and optimization of your wireless networks.

Our Services

- Metrological reliability analysis and fault diagnosis using analyses at the protocol level and spectral analysis
- Monitoring system for continuous condition analysis and fault diagnosis
- Customer-specific network analyses
- Feasibility studies on the deployment of wireless technologies
- Support with the integration of wireless technologies in products and production systems

Your Benefits

- Transparency regarding your network's status and identification of foreign wireless systems
- Reduction of transmission problems thanks to wireless system configurations tailored to your installations and environment
- Early detection and prevention of system failures
- Time and cost savings in the integration, inspection and maintenance of wireless communication systems

More information

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Part of

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Analysis software for wireless networks (WLAN, Bluetooth, Bluetooth Low Energy)

- In-depth analysis of network traffic
- Identification of anomalies, transmission reserves and disruptions in wireless connections
- Time and cost savings in the integration, inspection and maintenance of wireless communication systems

Monitoring nodes for permanent network analysis

- Continuous monitoring and analysis of network traffic
- Transparency on your network's status in real time

above:
Fraunhofer IIS/EAS' solutions toward a networked smart factory

Permanent Monitoring of Industrial Wireless Communication Systems

To prevent transmission problems in wireless communication systems in the long term, Fraunhofer IIS/EAS is refining its temporal analysis solution for permanent monitoring of wireless networks. This solution allows early detection of communication disruptions, as well as shining a light on their possible root causes.

This allows efficient protection of the wireless infrastructure as a crucial link in a flexible and smart production chain. The increasing networking of production infrastructure, products and employees makes it all the more crucial to ensure uninterrupted reliability in wireless communications.

To this end, maintenance personnel must have access to real-time information on negative changes in wireless systems. This is assured by a permanent network monitoring. Customized, parameter-based assessment provides a constant overview of communication networks' status. The parameters also flag up imminent disruptions such as wireless networks failures in production facilities caused by overloading, signal propagation problems or coexistence issues, thereby avoiding downtime in production systems.

What is more, thanks to proactive anticipatory measures and reconfigurations, the overall network status is continuously improved and stabilized. In addition, individually reliable procedures can be developed for secure

integration of new wirelessly interconnected applications in an existing production environment.

With the solutions offered by Fraunhofer IIS/EAS, you can exploit the full potential of wireless networked automation for your production environment.

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