



→ Motivation

The integration of automation technology in business processes is becoming a main enabler of increased competitiveness. Therefore, manufacturers of networked automation components today have to support a multitude of network technologies (e. g. Ethernet, Wireless) and standard IT protocols (e.g. LLDP, VLAN, RSTP, MRP, 802.1x).

In order to prove the functionality and the interoperability of such standard protocols, in most cases, there are only very cost-intensive test systems, which require lots of experience in the handling. Consequently, several times, stability problems are found in networked components.

→ Your Benefit

- Manufacturer-independent tests according to transparent and approved procedures
- Robust, interoperable products
- Fewer efforts in development and quality assurance, i.e., shortened time to market
- Increased customer confidence in your products and used technologies

→ Our Offer

- Profound know-how in the field of industrial real-time communication
- Neutral and manufacturer-independent
- Unbiased protocol, performance, and robustness testing
- Very efficient metrological infrastructure
- System integration testing for accompanying the development or as acceptance
- Approved test procedures and qualified academic employees (certified ISTQB and TTCN-3)
- Continuous enhancements of test procedures and test systems

→ Equipment

- Net-O2 ATTEST for conformance and functional tests of layer 2/3 protocols
- Anritsu MD1230B for Wire-Speed performance tests with up to 24 Ports (10/100/1000 Mbit)
- Packetstorm emulator of IP-based Networks

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- Ixia IxChariot measuring system for end-to-end network performance
- Ixia WLAN client emulator (up to 64 WLAN Clients)
- Azimuth W series test system for reproducible tests according to IEEE802.11.2
- Radio channel emulator for a realistic and reproducible test environment
- Anritsu MD 8470A Emulator for cellular networks using 2G and 3G standards
- Rohde&Schwarz PTW70 WLAN protocol tester
- Network and Spectrumalyzer (up to 36 GHz, e.g., R&S ZVB8, R&S FSH6, etc.)
- Walkable anechoic chamber (8m x 4m x 4m, shielding effectiveness = 88dB)
- OTA measuring station (over the air performance) to measure 3D directional diagrams
- Freely available tools for testing
- Own developments





The inIT

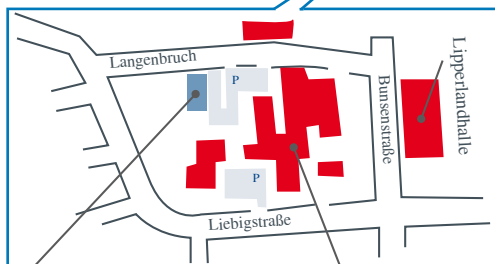
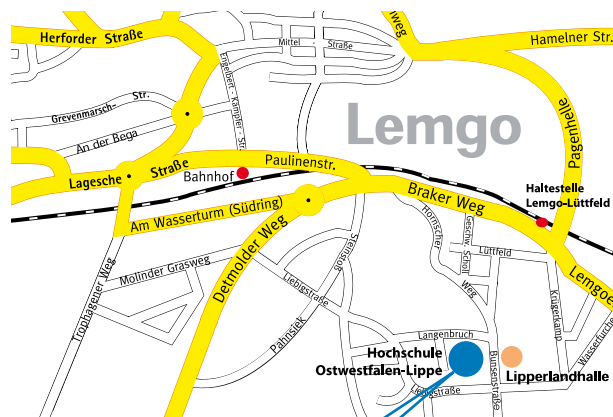
The inIT - Institut Industrial IT of the Ostwestfalen-Lippe University of Applied Sciences is an application and transfer oriented research institution. More than 40 employees are working in publicly funded and industrial projects on new concepts in the areas of industrial communication, industrial image processing and pattern recognition, and distributed real-time software.



The inIT is located within one of the most important clusters of machine engineering and industrial automation in Germany. Since 2006 the inIT is funded as a Center of Excellence by the Ministry of Innovation, Science, Research and Technology (MIWFT) of the federal state North Rhine-Westphalia.



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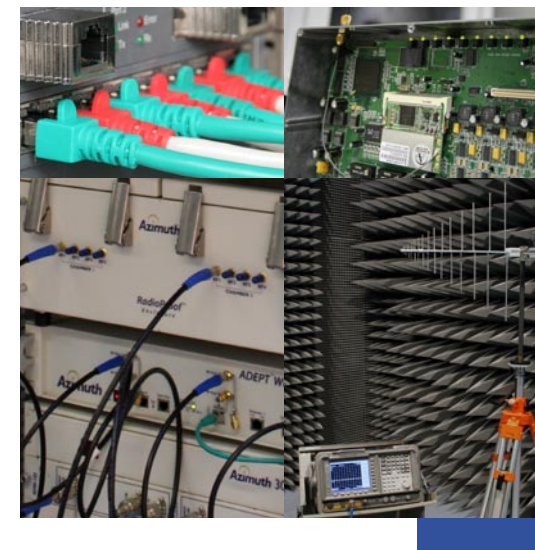
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Protocol Testing
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