

RFID by IAL

IAL GmbH

Talweg 10
D-52159 Roetgen

RFID by IAL is the descriptive summary of all RFID technology services offered by IAL.

IAL has been involved in intensive analyses of the RFID technologies LF, HF and UHF in many different application areas and branches of industry for more than two years.

During this time we have performed tests for customers as well as more extensive in-house studies under varying field conditions.

Services

IAL offers the following RFID services:

- ▶ Practical field tests
 - On-site measurements, set-up and protocolling of test conditions, evaluation of the results
- ▶ Feasibility analyses
 - Customer-requested samples testing, analysis of possibilities and limitations
- ▶ Consulting in regard to the technology and its possible applications
- ▶ Conceptualization, design and implementation of RFID systems
- ▶ Hardware selection and software development

The IAL portfolio guarantees our customers complete and competent support in all phases of the RFID installation.

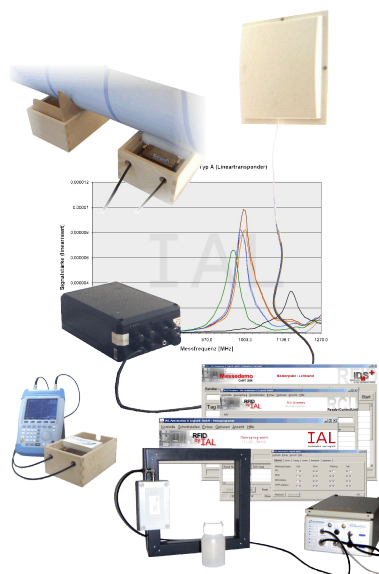
Practical tests

Examples for customer-requested tests include:

- ▶ RFID used to identify re-useable metallic containers in an industrial cleaning facility with aggressive chemical cleaning agents
- ▶ Automatic contents identification for cartons containing more than 400 units. The units were filled with fluids.
- ▶ Paper core identification using HF. The resulting "intelligent core" is produced in a cooperation with the core manufacturer Kunert (Paul & Co).
- ▶ RFID integration in materials flow processes with intelligent controlling via independent measurement stations. The technological tests were performed in conjunction with Gebhardt-Fördertechnik AG.
- ▶ Identification of thread spindles for the carpet research institute (Teppich Forschungsinstitut) in Aachen

RFID Laboratory

A major part of our work is dedicated to market analyses and in-house testing of currently available hardware components from various manufacturers. We have set up a test environment for these and other more extensive tests at our headquarters.



Components of the RFID "Laboratory" are:

- ▶ RFID Hardware (readers, antennas) from many manufacturers including Siemens, Sick, Feig and Scemtec in the frequency ranges HF and UHF
- ▶ Equipment for RF analyses (antenna field and transponder measurements)
- ▶ IAL software to optimize reader operation with regard to RFID integration (measurement station operation modes)

Our tests allow us to select the most appropriate hardware for a given task.

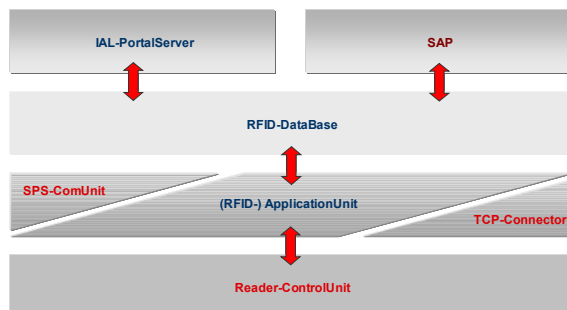
Our close cooperation with label producers also permits a flexible access to RFID labels with the optimal properties.

Integration

In addition to support in hardware selection, we develop together with our customers the necessary processes and changes to existing business procedures to guarantee a seamless integration of the technology into the on-site system architecture.

A simple and effective technical integration is reached through the use of the IAL software solution **RFIDmS⁺** (RF Identification & data management system).

The system architecture is based on a modular layering of the system components. This allows a very good scalability and a high degree of flexibility in accommodating customer requirements.



The system is distinguished by excellent configurability of the measurement stations.

Different operation modes make possible not only simple transponder data acquisition but also the imaging of complex acquisition procedures.

Standardized interfaces permit communication with the customer systems on both the operational level and with superordinate systems such as SAP.

Further details about the IAL RFID system are contained in the product descriptions. Please contact our team for further information.

Contact:

Michael Stein

Tel. +49 2471 1224 102
m.stein@ial-software.com

Dr. Klaus Weingarten

Tel. +49 2471 1224 103
k.weingarten@ial-software.com

www.ial-software.com