

## Press Release

### RFID in the future of supply chain management

**Austrian CISC Semiconductor, an RFID application and system design company specialized on simulation and measurement techniques, is doing research and development for RFID measurement equipment and simulation software with the German METRO Group.**

**Klagenfurt (Austria), November 14th, 2005.** The German METRO Group (Duesseldorf) with its METRO Group RFID Innovation Center is using RFID know-how developed by the Austrian company CISC Semiconductor (Klagenfurt). In an international project, CISC and the METRO Group are doing research and development for the optimization of RFID technology for the trading industry.

RFID (Radio Frequency Identification) is already a key technology for retail regarding identification, transport, storage, supply and product availability of consumer goods. The METRO Group, the world's third largest retailer is significantly involved in development of RFID technology for their retailing partners. An international group of well known companies of the consumer goods industry, IT technology and the service industry bring in their know-how and competence concerning key questions of RFID for retail and industry.

For use in the METRO Group RFID Innovation Center, the Austrian company CISC Semiconductor (Klagenfurt) is implementing innovative technology projects regarding simulation and measurement for RFID technology based supply chain management. In the context of the METRO Group RFID Innovation Center, a unique testing and research laboratory, the so-called European EPCglobal Performance Test Center has been setup to develop implementation standards and to provide companies with know-how and expertise. Leveraging long-term expertise in RFID, CISC Semiconductor is an important factor of the test laboratory. CISC Semiconductor on its own has developed models of RFID technology and products for simulation and measurement of RFID applications on basic technology level.

Optimization of supply chain management is of vital importance for the METRO Group. Warehouse costs can be reduced by improving stock management and out of stock situations can be avoided, which is important to meet the challenges of the demanding consumer good market. For the METRO Group RFID technology is helpful in monitoring the flow of goods and makes it possible to trace the path of individual pallets and cases along the supply chain. Dr. Gerd Wolfram, managing director of MGI METRO Group Information Technology GmbH: "Optimization of RFID technology and its use for fast moving consumer goods and retail is of great importance for the successful future of our company. The METRO Group with its RFID test laboratory is very proud to bring together those competent, international companies to leverage their know-how and deliverables in the future development of the RFID technology for supply chain management." The METRO Group was finally convinced about the advantages of the advanced technology in simulation and measurements offered by CISC Semiconductor Business Unit RFID+RFComm led by Josef Preishuber-Pfluegl, CTO of CISC Semiconductor.

Within the METRO Group RFID Innovation Center activities, CISC Semiconductor is in particular modeling pallets loaded with RFID tagged cases and their movement through an UHF RFID portal. Utilizing the cooperation, facilities and supply chain knowledge available through the METRO Group RFID Innovation Center, CISC has developed measurement methods to measure and evaluate the influence of the application environment, as well as the influence of products and auxiliary equipment on the RFID systems. This in so far is an inherent challenge to the technology as the machine readability in the portals can vary depending on the materials – e.g. on glass, behind water or on metal – where the RFID transponder is attached.

Thanks to the CISC simulations it is possible to take all these "side conditions" into consideration and a quick adjustment of the entire trial set up is feasible without requirement to change the complete hardware set-up that finally results in a significant cut on "physical" trial cost. Due to that fact it is enabled that the METRO Group has the opportunity to focus their activities on fine-tuning of the whole system, as all weaknesses will be highlighted during the simulation and are able to be solved more easily compared to physical "try and error" approaches.

The simulation environment provided by CISC allows the optimization of applications setups, as well as reader anticollision algorithm for applications without the need of long-term and cost intensive applicant trials. In particular these simulations are utilizing the CISC ASD (Application and System Design) Software

including the library for EPCglobal Class 1 Generation 2 and other protocols and are supported by the CISC RFID field recorder, measurement equipment allowing the evaluation for the best use of all the multiple options provided by the standards. This includes selection of data rates, sessions, inner and other identification loops for anticollision, as well as evaluation of pre-developed algorithm for particular application requirements.

### **About CISC Semiconductor GmbH**

CISC Semiconductor is a company supporting industries, which develop embedded microelectronic systems with extremely short Time-To-Market cycles. We are focused on system design, modeling, simulation, verification and optimization of heterogeneous embedded microelectronic systems.

CISC was founded in 1999 and is a 100 % private owned company. The company is managed by an international team of highest skilled experts working mainly for customers from semiconductor, automotive, air and space industry, as well as for users of RFID and contactless communication technology. The main office is in Klagenfurt, Austria.

Products and services are located in three different business units: "Automotive", "RFID+RFComm", and "Tools + Methodologies".

Visit us at [www.cisc.at](http://www.cisc.at) for further information.

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