BRIDGE

eNewsletter
May 2007

BUILDING RADIO FREQUENCY
IDENTIFICATION SOLUTIONS
FOR THE GLOBAL ENVIRONMENT

Welcome to the BRIDGE Project *eNewsletter* !

This newsletter is published every two months with a short overview on the happenings within the BRIDGE project. Each edition contains topical information arising from the various Work Packages within the BRIDGE Project. You can also expect to find information on: current RFID-related *hot topics,* reports on conferences and meetings, project milestones and achievements, events calendar and other BRIDGE related information.

In this issue brief updates are provided on:

- The project milestones to-date,
- An update from WP7 – Supply Chain Management – a European Textile Industry Business Application – Led by GS1 Germany
- An update from WP4 – Security Framework—Led by BT
- Ratification of EPCglobal EPCIS Standard

BRIDGE Project Milestones

May 2007

Reception of the first review report

Some adjustments are needed but on the whole, the project is on good track.

First Internal BRIDGE Webinar:

First webinar held on “CERP” and “Privacy and Policy”

+ 21 deliverables successfully submitted so far to the European Commission.

WP7 – Supply Chain Management – a European Textile Industry Business Application – Led by GS1 Germany

The objective of this WP is to promote the EPC/RFID technology in the European textile Industry in the best possible way. In collaboration with Kaufhof, gardeur, Carrefour, El Corte Inglés, AIDA Centre, GS1 Spain and GS1 Germany the feasibility of EPC/RFID in the clothing sector will be analysed and the prerequisites for an RFID implementation will be developed. Beyond this, a pilot with various EPC/RFID applications will be run in a Kaufhof department store.

Clothing companies in Europe are facing high competition in and outside Europe and are looking for opportunities to reduce costs and optimise time-to-market processes in their supply chain. RFID has the potential to achieve this, e.g. through optimised tracking and tracing and the reduction of out-of-stock situations. If companies consider EPC/RFID, many questions may arise such as “When and where should we start?”, “What processes will provide a business case?” and “What technological requirements do we have to consider?” WP7 will answer these questions in an EPC/RFID implementation guideline to help SMEs and large clothing companies to adopt EPC/RFID in their processes.

In the first phase single processes of the clothing supply chain are outlined. Different challenges along the supply chain affect the process efficiency and in consequence lead to higher costs or less sales. EPC/RFID has the potential to solve these challenges, which was analysed for the identified processes.

But not all identified benefits will lead to a positive business case as key factors such as investment costs and automation degree will impact the outcome. Thus in the second phase the technological requirements and preconditions for RFID installations in the supply chain will be analysed. A step by step implementation guideline will be developed to help companies with their EPC/RFID implementation. Answers will be given to questions such as “What frequency shall we use?”, “What RFID set-ups are required?”, “How will we process the data in our ERP system?” and “What investments do I expect?”

In the third phase of the work package, a business case will be calculated for different company models. Criteria such as the size of the company and the volume of shipped garments will impact the business case and will therefore be analysed in different scenarios.

In addition to that a break-even and return on investment -analysis as well as the calculation of the amortisation period will help clothing companies to estimate their own EPC/RFID potential.

Finally, WP7 will run an EPC/RFID pilot in a store in Germany. In collaboration with gardeur, one of Kaufhofs suppliers, not only the benefits for the retailer, but also for the manufacturer and the customer will be analysed. “We want to provide more service to our customers. We are confident that RFID will be the technology to achieve this.” says Uwe Quiede, project manager at Kaufhof and responsible for BRIDGE.

In this pilot smart shelfs and tables will provide visibility in the front and backstore. Customers and service associates will benefit from better on shelf availability and optimised processes. The installed EPCIS will provide the manufacturer with inventory information and item movements in the shop. Finally, a customer survey will analyse, how EPC/RFID will be accepted by the customer. All the acquired results of this pilot will also flow into the report.

Further information is available from Judith Dörfers
Telephone: +49 221 947 14400
Mail: doerfers@gs1-germany.de

“RFID: Towards the Internet of Things”
25-26 June 2007, Berlin
– expert conference during the German Presidency of the Council of the European Union

The conference “RFID: Towards the Internet of Things” aims to define new strategic processes, relate existing activities and concepts that make RFID technology useful and integrate them in a consistent European strategy that contains distinctive objectives for the implementation of a political roadmap. Organised by the Federal Ministry of Economics and Technology in cooperation with the Federal Ministry of Education and Research and the European Commission, the conference will deal with existing initiatives concerning RFID in order to shift the process to a new political level and to initiate a common strategy.

For more information go to the following URL
www.rfid-outlook.de or www.rfid-outlook.eu

BRIDGE

WP4 – Security, Led by BT

The goal of this Work Package is to design and develop security solutions to deploy innovative RFID applications in the European Union. In particular our aim is to secure sharing of RFID data across different supply chain boundaries and to provide mechanisms to control the access to this data. RFID data can be associated with valuable business information, with confidential supply chain data and with sensitive personal information. Without an appropriate security mechanism, RFID technology will be limited to local applications and the potential of the technology would be undermined.

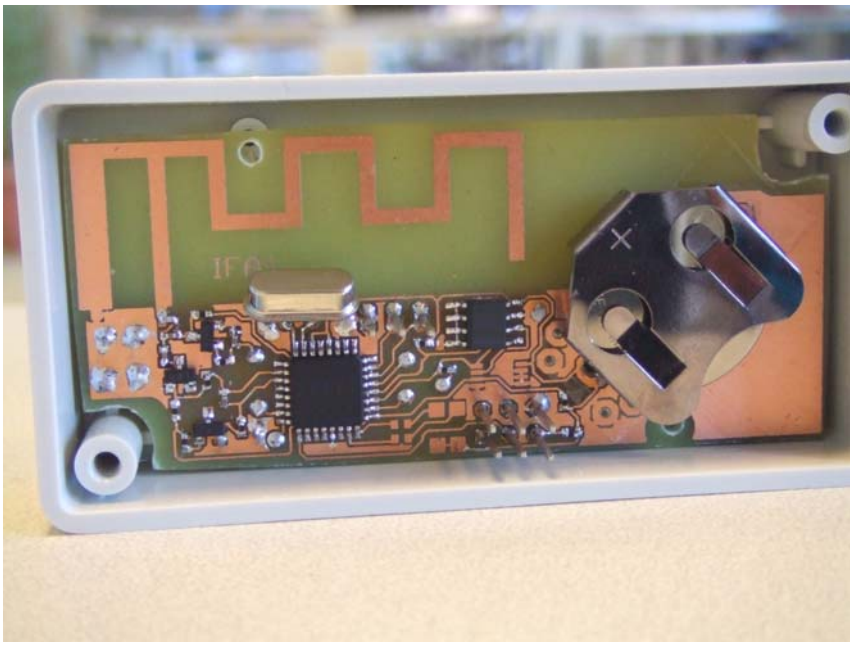
Our research activity is focused on the analysis of security issues (first deliverable has just been completed and submitted) and on the development of secure technology for RFID tags, readers and on the inter-organizational RFID information network.

Our aim, in collaboration with other BRIDGE WPs, is to secure the design of the EPC Discovery Service and to provide a guarantee that information disclosure is controlled by appropriate security policies. In the section below, we describe the activity carried out under task 4.2 where we have explored the development of secure RFID tags through symmetric cryptographic measures.

In the last few years, system integrators and service providers have always assumed that strong cryptographic algorithms are impossible on passive tags. In this task 4.2 we want to challenge this view. We aim to prove that secure passive tags can be implemented with relatively cheap technology and we believe that protection through state-of-the-art security measures is necessary for many of the next generation RFID applications and for a wider acceptance of the technology.

This work led by TUG (Graz University of Technology), aims to develop lightweight implementations of standardised cryptographic protection measures, to establish secure authentication of tags to readers (for anti-cloning or proof of origin), readers to tags (for access control) or to achieve mutual authentication and encrypted communication (for confidentiality/privacy).

To access the additional functionality, we propose a security layer built upon the EPC Gen2 communication protocol that will be fully backward compatible with existing RFID infrastructure. We are developing proof-of concept tags and protocols using a semi-passive prototype platform. These tags consist of a low-cost microcontroller along with an RFID UHF front-end. Three different versions are planned to demonstrate the inter-operation between different vendors.



The prototypes will be fully compatible with the EPCglobal Gen2 standard and will be programmed with software implementations of the cryptographic functionality. AES is used as cryptographic primitive with a key-length of 128 bits. The application of the prototypes is not limited to the demonstration of WP4 results, but due to their programmability they can be re-programmed for a variety of other applications (e.g. integration of temperature or other sensors).

The hardware development for the prototypes is completed and the development of the firmware to execute Gen2 commands is ongoing. First tests of communication together with CAEN's Gen2 reader using a limited Gen2 command are set to be successfully completed. In the pictures provided the current prototypes developed by TUG and Confidex are illustrated.

Further information is available from Andrea Soppera
Telephone: +44 1473 643542
Mail: Andrea.2.soppera@bt.com

BRIDGE

EPCglobal Ratifies Global Standard for Secure, Real-Time Data Sharing

EPCIS standard provides greater visibility for the benefit of business and consumers across industries and the globe.

In early April EPCglobal Inc announced a ground-breaking industry standard providing the capability for unprecedented visibility into the movement, location and disposition of assets, goods and services throughout the world. EPCIS (Electronic Product Code Information Services) allows for the seamless, secure exchange of data at every point in the lifecycle of goods and services.

EPCIS, by providing a standard set of interfaces for EPC data, enables a single way to capture and share information, while still allowing the flexibility for industry and organisation-specific implementations. The specification supports powerful business cases and consumer benefits such as container tracking, product authentication, promotions management, baggage tracking, electronic proof of delivery, chain of custody, returns management, and operations Management.

“With the EPCIS industry standard, the technology supporting visibility into the movement and whereabouts of goods and services is coming of age “said Chris Adcock, president of EPCglobal Inc. “In terms of industry significance, I believe that the EPCIS standard may have much more of a transformational impact on the industry than the release of the UHF Gen2 Passive RFID standard. Capturing EPC data has proven, well-defined advantages for businesses and consumers, but the technology’s true potential will be realised when enterprises begin to share that data about products using the EPCIS standard to improve efficiencies in a controlled setting throughout the supply chain.”

In October 2006, EPCglobal successfully completed interoperability testing of the platform along with 12 other large and small solution providers from Japan, Korea, and North America, including Auto-ID Labs, Avicon, BEA Systems, Bent Systems, IBM, Globe Ranger, IIJ, NEC, Oracle, Polaris Systems, Samsung, and T3Ci. The interoperability test marked a significant milestone in the development of EPCIS, which is the result of years of effort by more than 150 companies and organisations participating in the EPCIS working group. The positive results of this test and solution provider support have led to the ratification of this standard.

"The EPCIS standard is a major step in the greater adoption of RFID and sensors that can help protect us from counterfeit drugs, secure our ports and provide food traceability," said Craig Asher, IBM WebSphere Product Manager and EPCglobal EPCIS Software Action Group Co-Chair. "This standard has already been deployed in real business scenarios around the world and will facilitate revenue-enhancing and cost-saving collaboration among supply chain trading partners."

EPCIS is the foundational specification for capturing very granular event information across and within organisations. It is anticipated that EPCIS will be built upon, with additional end user and community use cases serving as the driver for enhanced data sharing models.

About EPCIS

EPCIS is used to track the progress of objects as they move through the supply chain. The data shared at each read point in the supply chain provides the WHO, WHAT, WHEN, WHERE and WHY of each EPC event. The EPCIS Standard provides the foundation necessary for the capture, communication and discovery of EPC event data. It enables standard event capture and query interfaces for obtaining and sharing data about unique objects in the supply chain within and across organisations.

Cluster of European RFID Projects (CERP)

BRIDGE is a European Union funded project whose objective is to research, develop and implement tools to enable the deployment of EPCglobal applications in Europe. Other EU funded projects have been established in different areas including Product Lifecycle, Business Environments, Health, Security and Technology.
In January 2007, the European Commission took the initiative to launch a group that brings together representatives of 13 EU funded projects on a regular basis. The total cumulated investment of these 13 projects is more than 150 millions euros.
The new group called “Cluster of European RFID Projects” (CERP) has the following objectives:

- To facilitate networking of different projects in Europe
- To coordinate research activities
- To assure coherence of work in Europe
- To leverage expertise, talents, and resources and maximize impact
- To establish synergies between projects

The following table lists the projects that are currently part of the CERP initiative:

AMI-4-SME	Ambient Intelligence Technology for Systemic Innovation in Manufacturing SME’s
BRIDGE	Building Radio frequency IDentification for the Global Environment
CE-RFID	Coordinating European RFID Efforts for Promoting the European Value Chain
CoBIs	Collaborative Business Items
Dynamite	Dynamic decisions in Maintenance
INDISPUTABLE KEY	Intelligent distributed process utilization and blazing environmental key
PRIME	Privacy and Identity Management for Europe
PROMISE	Product orientated manufacturing systems including RFID technology
SMART	Intelligent Integration of Supply Chain Processes and Consumer Services
SMMART	System for Mobile Maintenance Accessible in Real Time
StoLPaN	Store Logistics and Payment with NFC
SToP	Stop tampring of products
TraSer	Identity-based Tracking and Web-Services for SMEs

CERP has started working on an RFID reference model designed to provide a quick overview on RFID applications and associated challenges. In addition, input is being sought from the members of the cluster to identify areas where research will be required in the future. This will result in an important contribution for the European Commission, enabling them to establish detailed research plans and the related future calls for new projects.
Web site address: http://www.rfid-in-action.eu/cerp

CALENDAR OF EVENTS

9th Annual European Supply Chain and Logistics Summit 2007, Düsseldorf, Germany
21-22 May 2007
http://www.scm.worldtradeco.com/

RFID 2007, Event on Radio Frequency Identification in industrial and business processes, Metropolis Business Centre, Antwerp, Belgium
7 June 2007
www.rfid-expo.be

RFID Towards the Internet of Things, Berlin, Germany
25-26 June 2007
www.rfid-outlook.de or www.rfid-outlook.eu

RFID Journal Live! Europe 2007, Amsterdam, The Netherlands
6-8 November 2007
http://www.rfidjournal.com/events/

ID World 2007, Milan, Italy
26-28 November 2007
http://www.idworldonline.com/

ABOUT THE BRIDGE PROJECT

The BRIDGE Project (Building Radio frequency IDentification solutions for the Global Environment) is being supported by the European Union's Sixth Framework Programme for Research and Technological Development (FP6) .The BRIDGE project will focus on business-based research, provision of information services and hardware (sensors, tags) and software development. This will lead to pilots, deployment and comprehensive training materials in the use of RFID in a variety of business sectors.
With the globalisation of supply chains, it is essential to find more efficient ways to trace and transport goods. The widespread adoption of standardised RFID technology can help tackle this issue and the BRIDGE project will help make this happen and ensure the benefits of RFID are available for all businesses, large and small.

URL

http://www.bridge-project.eu

If you have questions regarding the BRIDGE project contact:
info@bridge-project.eu

BRIDGE