National Events

VIC – Site Visit
Tuesday July 6
Venue: Axima
Cost: $25 LAA members

NSW – Dinner Meeting
Thursday July 15
Speaker: Steve O’Keefe, Deputy Commandant, Warfare Doctrine & Training Centre, Australian Defence Force
Topic: RFID Today
Cost: $66 members $90 non-member

NSW – Seminar
Wednesday August 10
Speaker: Gerry Wind, Director Material Intelligence, Asia Pacific Region, CHEP
Topic: Navy Supply - Ensuring the Team Works
Cost: FREE to LAA Members

SA – Seminar
Wednesday September 8
Speaker: Steve O’Keefe, Deputy Commandant, Warfare Doctrine & Training Centre, Australian Defence Force
Topic: Navy Supply - Ensuring the Team Works
Cost: $20 members $40 non-member

Book online at www.laa.asn.au or email events@laa.asn.au

Short Courses

NSW – August 20 and 21
Retail Logistics.

VIC – October 25 and 26
World Class Manufacturing - Drive Waste out of your Value Stream

NSW – November 17, 18 and half day 19
Humanitarian Logistics

NSW – February 22 and 23, 2011
Logistics / Finance Interface

See page 6 for more course information or visit our website www.laa.asn.au/training.htm

Tel: 1300 651 911
Website: www.laa.asn.au
Email: admin@laa.asn.au

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The State of EPC / RFID Home and Abroad

At the recent LAA meeting at the University of South Australia, Alfio Grasso, Senior Advisor EPC Standards Development, GS1 Australia, gave a presentation on The State of EPC/RFID Home and Abroad. The presentation was targeted at logistics operations and this article summarises that presentation.

Alfio started by defining RFID as Radio Frequency Identification, which is an automatic identification method, relying on storing and remotely retrieving data using devices called RFID tags or transponders. An RFID solution is quite complex, sometimes involving multiple components, such as tags, labels, label printers, readers, antennas, communications, middleware, enterprise applications, systems integration, network infrastructure and network applications.

The actual size of a typical RFID chip itself is very small (a speckle on the tip of your finger) yet it contains more transistors than the processor in a 1985 IBM PC-AT and consumes less power than a honeybee’s brain. The RFID tag antenna enables the RFID chip to receive and respond to radio-frequency queries from an RFID transceiver or reader. In their most basic form RFID tags simply provide a code and one such code could be an EPC (Electronic Product Code) as defined by GS1 EPCglobal’s Tag Data Standards.

The tags communicate with RFID readers using an air-interface protocol, such as GS1 EPCglobal’s Generation 2 standard. Most tags are passive, i.e. they extract their operating power from the interrogating signal. However, there are also semi-passive tags, and active tags. Semi-passive tags have a battery which can provide either ancillary features (such as sensors), or provide much more range and reliability. Passive tags modulate the incident RF energy to provide a response, whereas active tags use a battery to transmit data back to the receiver, and so are higher performing tags, usually containing a sensor, and therefore cost more. Tags range in complexity from simple read-only types (class 0) to active tags (class 4). There are different RFID frequencies ranging from low frequency (LF) 125-134 kHz, through high frequency (HF) at 13.56 MHz to
Welcome to the July edition of Dispatch. As we enter into the new financial year, what does it hold for business and supply chain management in particular? Will global economies be growing? Will the Australian economy continue growth as forecast? Doubtless we will be pursuing ways of doing more with less resources” whatever the economy at large is doing.

Experience shows that cutting costs is not a sustainable strategy. Squeezing suppliers provides limited short term benefits and cutting staff almost always has negative impacts on productivity, loyalty and retention of knowledge. So the challenge we must embrace is to find new, sustainable ways, of delivering the business outcomes required with less resources.

Management need to find the skills to uncover these new ways through education, training and development; networking and knowledge building; and external assistance. I encourage you to take advantage of the LAA Member Programs which help Supply Chain Managers on this journey of discovery:

- Education: Scholarships, Training and the Book Club
- Personal Development: Mentoring, LDA, CPL, SCID
- Knowledge and networking: Site Visits & Events, Supply Chain State of Logistics Report

I look forward to seeing you at Smart Conference & Expo 2011, now just 11 months away - put May 25-26, 2011 in your calendar!

Dennis Horder,
Director, LAA

ultra-high frequency (UHF) at 860 to 960 MHz and above at 2.45 & 5.8 GHz, with each band offering different features and read characteristics to suit the local environment or application. The reader issues commands to tags, for example to read their EPC codes.

Some readers can control multiple antennas (multiple read points) and some readers can implement filtering and counting of the RFID data read from the tags. Usually the RFID reader antennas are separated from the RFID electronics. RFID antennas can be fixed (at dock doors, fixed read points, conveyor belts, palletisers, etc), mobile (mounted on a forklift), portable (hand-held) or can be shelf readers (monitoring items on a retail shelf). Of course RFID readers communicate the data that they have read via a network of applications to eventually provide the information to an enterprise resource planning (ERP) application. RFID systems, being automatic, have the potential to generate massive amounts of data, as once they are installed it costs virtually NOTHING to read a tag! The provision of real-time data means that real-time decisions can be made.

The GS1 System was then discussed by Alfio, including not only GS1 EPCglobal, but also its Identification keys, GS1 Bar Codes, GS1 eCom (eCommerce and messaging) and GS1 GDSN (Global Data Synchronisation Network). The GS1 EPCglobal set of standards are supported by online tools, cookbooks, implementation-sharing documents and a list of vendors that provide certified (by a third party) products and solutions.

GS1 globally also hosts an EPCglobal’s Transportation and Logistics Industry Action Group, recently relaunched within GS1 as GS1 Industry Engagement Transport and Logistics User Group. GS1 Australia participates in this Industry Engagement Group. The previous EPCglobal group has delivered specification requirements for a Conveyance Asset Tag (CAT) [passive] and an Extended Conveyance Asset Tag (XCAT) [active]. It has also documented uses cases for Warehouse, Yard Management, and Chain of Custody, developed Key Performance Indicators (KPIs) for both 4-Walls and Transportation, and developed a Supply Chain Implementation Guide.

Alfio then described an implementation survey conducted by GS1 US to gauge implementation activity and read-rate success, including identifying the successes and challenges EPC/RFID technology users were experiencing with various types of products and packaging levels. The survey results showed that respondents reported 86.2 per cent of their tagged pallets and 82.0 per cent of their tagged cases were being read successfully. Successful was defined in the survey as a product pallet or case that was tagged and obtained read rates of 99 per cent or greater. The survey also showed that traditional implementation obstacles
are disappearing and most pallets and cases can be successfully identified with today’s EPC/RFID technology. In addition it was noted that cost concerns are dissipating, that company size doesn’t determine opportunity, the perceived value is a real obstacle, non-supply chain use are overlooked and process integration/adaptation is needed.

RFID developments in Australia was the next topic discussed by Alfio. Unfortunately, unlike the US, Australia has no mandate for the use of RFID. However, there are many EPC/RFID projects, mostly in closed-loop applications. Most Australian applications are about asset tracking, rather than supply chain. Current RFID project implementations are generating advantages for organisations and most vendors need to sign confidentiality agreements. In addition, the logistics and supply chain industry in Australia is more advanced in the use of bar code technology than many of the countries currently deploying RFID-based supply chain applications. So there is less of a competitive advantage to deploy RFID.

Current projects in the Australian market place include:-

- Asset Tracking - Libraries, Laundries, Rail (passenger, sugar-cane, wagons, mines)
- Vehicle Identification - Tolls, Access, Weightbridge
- Mining - Aluminium, Iron Ore, Gold, Diamonds, Lead/Silver/Zinc, Copper
- Waste Management - Commercial, Domestic

GS1 Australia’s involvement in RFID was briefly introduced by Alfio.

- GS1 Australia led an Industry Lobby to change Spectrum Regulations to allow a change of RF power for RFID application up to 4W
- The National EPC Network Demonstrator Project (NDP) Extension, built on the success of the first NDP with a new consortium (co-managed by GS1 Australia and RMIT University). The NDP extension set out to achieve electronic Proof Of Delivery (ePOD) and paperless delivery, allowing for simple and timely asset tracking and management, while investigating the technical requirements and commercial pathways for EPC RFID to be successfully implemented into business processes
- GS1 EPC/RFID Australian Advisory Group, which has now become the AIDC Group, involves business leaders from across industries that gather to hear how they can be involved. Together they will aim to set the direction of Australian industry by leveraging overseas experience, implementing pilots, sharing information, and participating in global standards development
- GS1 Australia also is involved in a number of case studies, EPC/RFID pilots and implementation projects and monitors all GS1 EPCglobal Work Groups

Finally, Alfio briefly touched on the role that RFID can play in climate change. We all know that climate change is a political and social hot topic and that more consumers are becoming carbon aware. Alfio asked a number of questions, targeted at Logistics Service Providers: Do you know what your carbon footprint is? Do you know the carbon cost of your services?

As consumers become more aware and customers may demand carbon costs of products and services they purchase. Therefore your clients may need to provide carbon data to those end users, and so you may need to calculate the carbon cost of your services. Therefore, knowing the CO2 cost of the use of each asset you use will become important. Every mis-shipment will mean increases in CO2. Using EPC/RFID tags on your assets and shipments can help by eliminating mis-shipments (or at least minimise them), automatically provide CO2 data for each shipment, schedule maintenance of your assets so as to reduce CO2 and identify CO2 costly services or assets.

In conclusion, in its basic form RFID equals Automatic Identification. RFID does exist in Australia. Australia is well served by many RFID vendors with certified equipment. There are different frequencies and form factors for tags suitable for different applications and environments. EPC tools are available online, and RFID can help minimise CO2 footprints. GS1 Australia does provide EPC RFID assistance. For further information please do not hesitate to contact:

Alfio Grasso
Senior Advisor - EPC Standards Development, GS1 Australia
agrasso@gs1au.org