EPCglobal Singapore Newsletter

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1) Year End Review of EPCglobal Standards Development

2008 was a year of continued progress and achievement through the work of the EPCglobal working groups and committees. There were significant accomplishments and advancements made in the following areas:

• **Item level tagging** – understanding how it can be utilized across many industries including retail, consumer products, media and entertainment, consumer electronics, healthcare, aerospace and defense and others. Significant updates to both UHF and HF were completed in those two working groups.

• **Active tagging** – Extensive requirements were developed and analyzed against existing standards. Progress on standardization of those requirements will be fully realized in 2009.

• **Transportation and Logistics** – The work of the Pilot both in the completion of Phase 2 and planning for Phase 3 has identified opportunities for standardized identification of both assets (containers) and the contents of shipments. It is an unparalleled example of tracking objects through a supply chain and how visibility of that tracking can provide significant supply chain improvements.

• **Electronic Article Surveillance (EAS) and Tag Alteration** – The use of standard EAS RFID will combine the benefits of improved Electronic Surveillance and help reduce shortage at points within the retail environment. The EAS requirements were completed and have been the catalyst for the Tag Alteration Joint Requirement Group (JRG). The requirements developed for Tag alteration will result in providing standardized approaches to disabling EPC tags in a manner that meets retailers', manufacturers' and consumers' needs.

• **Consumer Electronics** – The group outlined processes and usage of EPC and RFID to enable lifecycle management of consumer electronics. This included use cases that illustrate traceability from the procurement of parts and components to manufacturing, distribution, sales, servicing and maintenance, and recycling of the component of manufactured products. In 2009 they will continue with demonstration of how RFID enabled processes can ensure that consumer electronics products are dependable, safe, and easy on the environment.

• **Aerospace and Defense** contributions and consensus on item level tagging, active tagging and tag data requirements.

2) EPCglobal Transportation and Logistics Industry Action Group meets in Singapore

On 22nd September 2008, GS1 Singapore hosted delegates from Japan, Hong Kong, Malaysia and Singapore to update the activities of the EPCglobal Transportation and Logistics Industry (TLS) Action Group. Delegates included representatives from Singapore PSA Corp, Johor Port, Singapore Customs, Free Zone Port officers from Malaysia, shipping companies, manufacturers, logistics companies, retailers, Research Institutes, Spring Singapore, IT Standards Committee, solution providers and GS1 Malaysia. Delegates from EPCglobal TLS

Action Group, include the following:

1. Mr Naotaka Ishizawa, Co-Chair of EPCglobal TLS Action Group, RFID Project Manager of MTI
2. Dr Shinichi Ishii, Co-Chair of Chain of Custody Task Force Group, EPCglobal TLS Industry Action Group, Senior Consultant of NRI
3. Mr Koji Asano, Senior Researcher, GS1 Japan/EPCglobal Japan
4. Mr Murphy Cheung, Co-Chair of Chain of Custody Task Force Group, EPCglobal TLS Industry Action Group, Senior Consultant of MTI

This event commenced at 9.30am. Mr. Tan Jin Soon, the Executive Director of GS1 Singapore welcomed the participants and presented EPCglobal Update as at September 2008. He highlighted that as at March 2008, the EPCglobal membership grew to 1,262 companies as follows:

Asia Pacific	216 companies
Europe	315 companies
Latin America	32 companies
Middle East/Africa	20 companies
North America	679 companies
Total	**1,262 companies**

In the Asia Pacific region, Japan and Korea are leaders in this field. In the standards development area, EPCglobal UHF and EPCglobal High Frequency GEN2 standards had been developed and there is a process for EPCglobal to share information with ISO on EPCglobal UHF GEN2 and EPCglobal HF GEN2 Standards.

Mr Goh Hock Nguan of PSA Corp and Chairman of ISO/TC 104/SC 4/WG2 made a presentation on ISO E-Seal standard.

Mr Naotaka Ishizawa, gave an update on EPCglobal TLS Industry Action Group with details on the successful pilot phase 1 by sea with shipments from Hong Kong to Japan and the successful pilot phase II by sea and air from Hangzhou, China to Los Angeles, USA.

Dr Shinichi Ishii made a detailed presentation on the preparation of the proposed pilot phase III project by sea from Japan Port to Amsterdam Port using RFID tags and readers and EPCIS as the data repository for the secured transmission of data captured by RFID readers.

A lively dialogue developed during the Question and Answer session. Delegates were impressed with the valuable information presented first hand by experts from Japan and Hong Kong and the opportunities for networking.

GS1 Singapore and EPCglobal Singapore would like to take this opportunity to express our heartfelt thanks to the distinguished speakers from Japan and Hong Kong and our guests from Malaysia and Singapore for making this event a great success.

3) GS1 EPCglobal ratifies standards for item-level tagging

EPCglobal Inc, a subsidiary of GS1, announced that the UHF Gen2 standard has been extended to better facilitate and support item level tagging. EPCglobal UHF Gen2 Version1.2.0 Standard was ratified by the EPCglobal Board of Governors and supports some critical functionality that will help drive further deployment of RFID tagging at item level.

“UHF Gen2 Version1.2.0 for Item-Level Tagging is a major step in the greater adoption of RFID. It facilitates revenue-enhancing and cost-saving collaboration among business partners as well as improved customers satisfaction and protection” said Chris Adcock, president of EPCglobal Inc.

The benefits of UHF have been championed by retailers, consumer goods manufacturers, aerospace companies, airports and government agencies since the technology is based on its

potential to improve business processes along the global supply chain.

This standard supports businesses in their efforts to improve supply chain efficiencies and visibility and ultimately consumers benefit from improved product availability, faster service and quality assurance. The EPCglobal UHF Gen2 version 1.2.0 for Item-Level Tagging provides a foundation offering privacy protection as well as enabling global use through worldwide harmonized regulations and is compatible with earlier versions of Gen2.

4) Oil and gas companies develop virtual asset pool using EPCIS

Swire Oilfield Services, Aker Solutions and Spartan Solutions Ltd, have jointly announced the world's first exchange of oil and gas asset information using the Electronic Product Code Information Service (EPCIS) global standard. This allows Swire and Aker Solutions to connect their supply chains and share real-time information using RFID (Radio Frequency IDentification) tags, bar codes and mobile computers. Both companies can now see information on their assets as they move beyond the horizon of their depots into bases and on to platforms.

This development has major implications for the oil and gas industry as it allows trusted parties to share transit location, availability, certification and any other equipment status for all items in the supply chain. Operators want to know if equipment is on schedule to arrive at bases and platforms, and service companies want early visibility of equipment mobilisations and returns.

With demand for energy at an all time high and production costs increasing, early visibility of asset movement will improve production hours for operators and asset utilisation for service providers.

Spartan Solutions Ltd, the specialist in RFID business solutions, implemented their EPCIS based Horizon system on top of their Phalanx Mobile Logistics and Service solution which was selected by both Swire and Aker Solutions. Both companies can now alert and exchange information with any authorised subscriber on a secure basis when the assets are 'out of sight' of their own respective supply chains.

This information sharing creates a virtual asset pool between Swire and Aker Solutions. For example, Swire can pre-allocate equipment not yet physically returned to the depot, based on the information Horizon provides. Both companies are now in a position to deliver an asset tracking service to customers while increasing internal asset utilisation. Turnaround times for equipment service will be cut and commitments can be made on assets before they are returned to depots and parts ordering streamlined.

GS1 UK, the local representative of the global standards body responsible for the EPCIS standard, was on hand to witness the event. David Weatherby, GS1 UK Consultant said, "I'm pleased to verify that this is a world first in the oil and gas industry and hope that other parties follow up on the major steps taken by these three companies."

The EPCIS standard enables seamless, secure data exchange at every point in the lifecycle of goods and services, and will be used across supply chain processes such as goods tracking,

product authentication, promotions, returns and operations, management, plus electronic proof of delivery.

Tor Helgeland, Swire Oilfield Services CEO said, "We constantly strive to deliver innovative new services to our customers. When Spartan approached us with their idea for creating 'virtual assets', we realised the value immediately and that it would deliver our long held vision of managing assets beyond our direct supply chain. Our relationship with Aker Solutions was the perfect vehicle to make it a reality."

Ole Petter Thomesen, President of Aker Solutions' well service unit said, "Our operational excellence always has to be coupled with delivery excellence so we can get on site to do the job. We're hoping the lead we've taken with Swire and Spartan will be supported and built on by the major operators. This will benefit everyone."

Jim Green, Managing Director of Spartan Solutions said, "Spartan's vision is driving business value by connecting the physical world of objects with the virtual world of computers. Our goal is removing paper, delay and cost for our customers. Our Phalanx software platform has achieved this within Swire and Aker Solutions and our Horizon product now extends Phalanx across the full supply chain."

5) RFID in Healthcare : improving patient safety and supply chain effciency

Standards development for Healthcare

The global Healthcare user group, GS1 Healthcare, aims to lead the healthcare sector to the successful development and implementation of global standards by bringing together experts in healthcare to enhance patient safety and supply chain efficiencies. GS1 Healthcare covers the full spectrum of GS1 Standards (including GS1 EPCglobal) and has made significant progress to adapt our standards to the specific needs of the sector. Two GS1 Healthcare work teams also deal with business requirements for RFID in Healthcare: AIDC Application Standards and Traceability.

Bar code and RFID Standards for Healthcare products

The AIDC Application Standards Work Team has set out to develop the global standards for automatic identification and data capture of Healthcare products at all packaging levels and throughout their movements through the supply chain, from finished goods at manufacture to the patient. The work team is currently finalising a draft Application Guideline, which is planned to go into GSMP in October 2008. This will include grids, visualising which product should carry which product data, and decision trees, visualising which carrier and symbology should be used for any given product, that have already been completed.

Traceability from manufacturer to patient

The Traceability in Healthcare Work Team is defining the global solution for traceability in Healthcare to ensure that the business needs of the industry are fulfilled. This includes ensuring global traceability in an efficient, secure and reliable way, addressing restrictive legal requirements as well as authentication from manufacturer to patient and achieving cross-industry interoperability. The work team has recently finalised a draft Global Traceability Standard for Healthcare (GTSH) and submitted it into the GS1 Global Standards Management Process (GSMP). The GTSH is expected to be ratified early 2009. The work

team is currently developing an implementation guideline, including case studies and best practice examples.

RFID in Healthcare

Safety, security and traceability of medical products are currently at the forefront of government regulations and industry concerns around the world: medication errors, counterfeiting, product recalls, adverse event reporting, etc.

Automatic Identification and Data Capture (AIDC) technologies, using bar codes or RFID, can have a very wide range of applications throughout the healthcare supply chain. For healthcare providers for example, this includes point-of-care scanning to match product data to patient data, verification of patient identity via a wrist band, enabling the introduction of robotic dispensing systems, tracking and tracing of individual instruments through decontamination, stock control and supplies management, tracking assets throughout network of facilities...

The Tokyo Medical University Japan is currently testing RFID-tagged medical supplies and a tracking and tracing system whereby the Hospital Information System and the Supply Chain Management System are linked to EPCIS. The University Hospital of Jena (Germany) has conducted a pilot with RFID tagging of drugs at unit dose level, which resulted in an increase of the quality of care. It helps to ensure the five patient rights (right patient, drug, dose, route and time), to collect data for quality improvement, to recall products more efficiently, and to better manage inventory (e.g. product expiration) and billing.

Also other stakeholders have been working with RFID of medical products. Pfizer already initiated an RFID pilot programme at the end of 2005. The programme aimed at shipping RFID/EPC tagged Viagra, Pfizer's most frequently counterfeited product, and creating an authentication capability. The key objective was to learn more about mass serialisation at item, case and pallet level, about RFID technology and about the business processes requiring its use. All Viagra produced for sale in the USA, now contain an RFID/EPC tag, and have bar codes for back-up. A second RFID pilot with Celebrex was deployed in December 2007 (at case and pallet level). Also Merck and Novartis have recently presented ongoing RFID pilots at GS1 Healthcare conferences.

6) Editors Note

We welcome contributions from companies in Singapore and overseas on activities related to implementation of EPCglobal in your organization. Should you have any comments or feedback, please email them to EPCglobal Singapore, Mr Andy Siow at email : sanc1@gs1.org.sg