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Year End Review of EPCglobal Standards Development

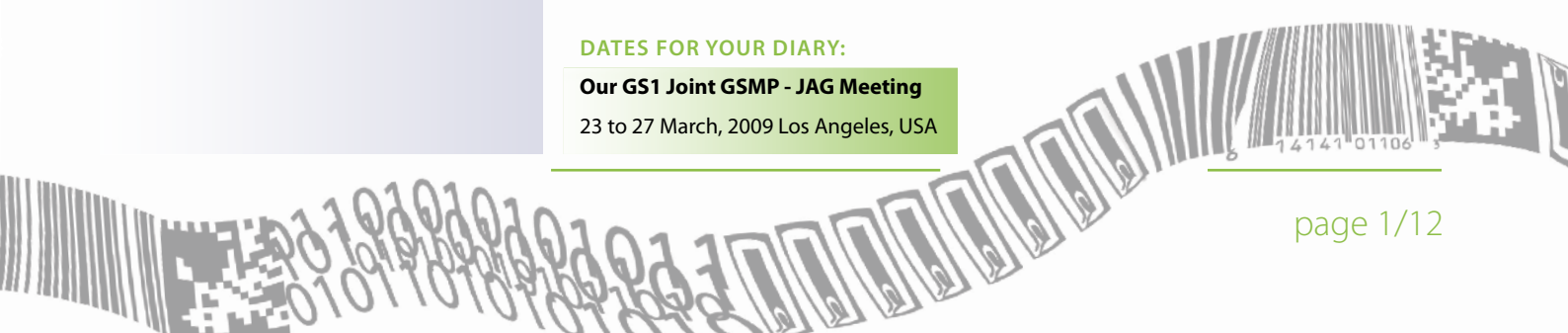
2008 was a year of continued progress and achievement through the work that YOU do every day in our working groups and committees. There were significant accomplishments and advancements made in the following areas:

- **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 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 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 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.

DATES FOR YOUR DIARY:

Our GS1 Joint GSMP - JAG Meeting

23 to 27 March, 2009 Los Angeles, USA





- **Core Business Vocabulary** – Requirements were completed and the software standards is in the final stages of development. This specification outlines the standardized language of EPC data exchange which will ensure that EPCIS can be used in a common and repeatable way to enable visibility of the where, when, what and why of items as they move through a supply chain.

- **Tag Data Standard** – An update (version 1.4) was completed to specify how to encode all of the GS1 identifiers into an EPC tag. Further development (version 1.5) is underway and will ensure a clearer understanding of how to encode tags and use features enabled in item level tagging. Version 1.5 will be available in the first half of 2009.

- **Data Discovery** – Requirements are in development that will complete the final component of the EPCglobal Architecture framework. Discovery enables the search and retrieval of data and securing the exchange of that data between trading partners that may or may not have a trading relationship. We are particularly grateful to members of the JRG that have worked to coordinate the efforts of the group and collaborate with comparable development in IETF and with other discussions in the interested parties beyond the community.

- The **Public Policy** committees and workgroups continue to successfully educate and collaborate with policy makers around the world to ensure that the community effectively demonstrates responsible use of EPC and RFID technology in a way that benefits individuals.

- **Certification** of Conformance for 39 hardware products and 34 software products. Certification is the demonstration of the effectual use of the EPCglobal royalty free standards.

- Extensive **development and execution of training** at basic and advanced levels was completed. In addition, translation of those materials into local languages to support regional adoption is in progress.

- **Tag Label Reader and Printer Performance** work efforts which create and demonstrate methods to ensure that the EPC technology works effectively when deployed in real world environments.

- **Sharing** many of the **EPCglobal draft standards with ISO** to ensure harmonization and best use of our subscribers' time and energy in the development of Standards.

- An update to **Application Level Events** standard to fully leverage the lower level reader protocol standard.

- Interest groups such as **Liquids and Metals** and **Media and Entertainment** whose work helps to ensure that EPC and RFID can be fully utilized in environments that have specific production or flow thru needs.

- Many **successful examples of the use of EPC and RFID** to achieve concrete and measurable business benefits including process improvements, optimized inventory, supply chain pipeline velocity, asset management and sales growth where visibility enables improved forecasting. We are grateful to all those who have shared their successes and look forward to publishing more of those achievements in 2009.

The effective use of EPC and RFID by companies across the globe is a tribute to each and every one of you that participate in the many meetings and conference calls that occur at all times of day and night. Your vast knowledge of your businesses and the technology, as well as your limitless enthusiasm and energy, have been critical to the development of the high quality standards, guidelines and other key elements that support adoption of EPC and RFID.

As we said at the Joint Action Group Meeting held in Bonn Germany last October,

“Nothing great in the world has ever been accomplished without passion.”

We would like to thank you all for your time, energy, contributions and passion this past year and look forward to another year of unprecedented progress!

Our very best wishes to you, your families and friends as we move into 2009

Don't miss the first GS1 Joint GSMP - JAG Meeting in Los Angeles, USA from 23 to 27 March 2009



Join the GS1 Community in “Moving forward together, to serve your business better”:

- A unique opportunity to join this group of experts and professionals striving together to improve efficiency and security of the supply chain, for the benefit of businesses and improvement of peoples' lives.
- GS1 and GS1 EPCglobal share a common mission of leading the global community to develop and implement global standards for improving efficiency of the supply chain.
- As RFID and Bar Codes are complementary technologies which can be used together optimizing the value of both, the standards around them need to be developed to assure interoperability.
- GSMP and GS1 EPCglobal have been serving different communities for differing standards needs. These communities are brought together now in order to ensure full alignment and complementarities between them with a focus to better serve the business needs.



New sponsoring opportunities are offered which include a chance to participate in a Live Technology Demo and a Solution Provider Discussion Panel at the Joint Plenary Session. To find out how your company can participate, contact Gwen Lurie at gwen.lurie@gs1.org

or Kelly Rhoades at krhoades@epcglobalinc.org.

For more information, please consult the following link: <http://www.gs1.org/services/events/2009/la/>

Public Policy Steering Committee (PPSC)

Europe looks towards the future "Internet of Things"

The Public Policy Steering Committee contributed to the European Commission public consultation on its staff paper on "Early Challenges of the Internet of Things". The European Commission will publish all contributions on its "Internet of Things" website at: <http://www.iot-visitthefuture.eu/>. The EC document is relevant since it addresses RFID policy issues as well as the role of this technology in the future Internet of Things. The European Commission is expected to issue a Communication on the Internet of Things during the first semester of 2009.



For more information, please contact Marisa Jimenez at marisa.jimenez@gs1.org

Auto – ID Labs Research Program

Open Source / FossTrack

The Auto-ID Labs team has developed and Open Source LLRP Java Library which can be found at www.llrp.org, developers and reader vendors can find LLRP libraries in C, C#, Java, Perl and a Wireshark Dissector. These libraries significantly simplify control and configuration of LLRP readers. ON the EPCs side Christof Roduner and Christian Floerkemeier gave a live demo and presentation on "EPCIS in 15 Minutes" at the JAG in Bonn, which demonstrated ease of installation and usage of the Fosstrack EPCIS (EPCglobal certified) software.

Auto-ID Labs Research Round Table

The recent Auto ID labs round table at the JAG in Bonn gave a comprehensive review of the key research areas the Auto ID labs are focusing on.

Adoption Oriented Research:

[FossTrack - Open Source RFID Prototyping Platform](#), C. Floerkemeier

[Update on involvement in EPCglobal Data Discovery JRG](#), Mark Harrison

[Update on revisions to Tag Data Translation \(v1.0 -> v1.4\)](#), Mark Harrison

[Warehouse Automation](#), Stephen Ho

[EPCglobal network node management](#), Shigeya Suzuki

[Recorder tag + Advanced Tag Performance Evaluation](#), Jin Mitsugi

[RFIDSim](#), Christian Floerkemeier

Consumer-Oriented Research:

[Collaborative Product Rating](#), Felix v. Reischach/F. Michahelles

[Supply Chain Visualization Tool](#), Alexander Ilic

[Demonstrator on Lost & Found Service](#), D. Guinard/F. Michahelles

[Greenhouse gas emission reductions with sensors](#), Alexander Ilic

[Demonstrator on Micro Policies](#), D. Guinard/F. Michahelles

Future Trends Research:

[Expanding the current EPC Architecture Framework towards a EPC Sensor Network](#), Jongwoo Sung

[Sensor Network Activities in Cambridge](#), Tomas Sanchez Lopez

[Findings from Fudan](#), Junyu Wang

[Characteristics of Printed RFID tags](#), Peter Cole

[Field magnification backing for UHF tags on metal](#), Peter Cole

Joint Requirements Group

Sensors and Battery-Assist Passive Tagging (SB JRG)

ONGOING – Call for Proposals: End-users interested in sensor and/or battery-assisted passive tags are invited to propose business use cases that they would like to see demonstrated by available technology.

For more information about the SB JRG, please contact Giselle Ow-Yang at gowyang@epcglobalinc.org.

Tag Data 2 JRG

The TD2 JRG has just completed requirements for filter values, additional TID and User Memory requirements. All requirements collected have been approved by the BSC, TSC and the GS1 Architecture Group. The TDTS WG has added the items to TDS version 1.5.

Tag Data JRG

This JRG has been dormant for some time and will be asked to review the mapped parts of the TDS 1.5 standard to make sure the approved requirements have been fully implemented. This should occur in late January of 2009 once the Software Action Group starts review of the LCWD.

Certificate Profile JRG

After review with the GS1 Architecture Group, this JRG will not become a new JRG in January. Instead, a broader group within the GSMP will focus on the issues raised by the draft charter.

Data Exchange JRG

The Data Exchange JRG is awaiting the Last Call Working Draft of the EPCglobal EPCIS Core Business Vocabulary, currently under development from their requirements, in the Software Action Group. The group meets as needed to review questions from that group regarding their requirements and to consider new requirements from other industries.

Data Discovery JRG

The Data Discovery workgroup has developed a features and function survey intended for circulation to the end user community within GS1 EPCglobal as well as some other partner standards bodies such as ITEF and AIAG. The survey is quite extensive and provides a set of functionality considerations for Discovery Services geared towards the end user. The group intends to circulate the survey in mid-December and consolidate the results at the end of January. The input from the survey will be the foundation for the development of the Data Discovery requirements document. The requirements document is scheduled to be completed by the end of the first quarter.

For more information on the Data Discovery JRG, please contact Gena Morgan at gmorgan@epcglobalinc.org.

Tag Alteration JRG

The GS1 EPCglobal Standards Development team along with the Public Policy Steering Committee and members of the Tag Alteration Joint Requirements group would like to draw your attention to a highly important initiative that requires your active support.

EPCglobal is at a critical point with the early stages of ILT. One of the biggest threats to EPC implementation currently is possible legislation that will constrain the use of the technology.

The EPCglobal community should show that it can address concerns effectively and in a reasonable fashion prior to government legislators feeling the need to impose laws that might deter RFID adoption or increase complexity and cost to an unreasonable level. It is because of this, and as a result of tag deactivation requirements from the EAS JRG, Consumer Electronics tag alteration requirements along with potentially

similar requirements from other industries like Healthcare, Apparel Fashion & Footwear, Media & Entertainment, Health & Beauty and others, that we have established the GS1 EPCglobal Tag Alteration Joint Requirements Group (TA JRG).

Our Public Policy colleagues are working on explaining how the technology works and the benefits it brings. Nevertheless, some form of deactivation/removal of item level tags within the retail sector will most likely be a reality worldwide soon. Deactivation/ removal of tags at request only and after sale is the preferred solution for retailers involved in our community.

In parallel, the TA JRG will look at ways a retailer may alter a tag at Point Of Sale (POS). Tags can be physically disabled (removed, destroyed...) as a form of tag alteration, but applications like EAS and the need for embedded tags (non easily removable tags) from other industries means electronic deactivation or tag alteration is necessary. The purpose of the JRG is to define the scope of modifications that a retailer MAY make to a tag at or around the time that a consumer takes possession of the tagged object. Such modifications may include, but are not limited to:

- Hiding or destroying the contents of use memory
- Altering, anonymising, or overwriting the EPC
- Reducing the tag's read range
- Hiding the tag's TID
- Killing the tag
- Other changes that may arise from the work of the JRG

The challenge for the TA JRG is to draft the overall requirements that best meet our key drivers. The scope is large so a phased approach will be adopted for requirement definition. Tag alteration ranges from relatively simple to complex depending on the product category and the associated use case. We want to give industry different options that are pragmatic and meet policy maker, consumers and other stakeholders expectations.

Implementations that could be affected include but are not limited to:

- M&E industry are considering new options to address counterfeit and theft which include the use of embedded tags in packaging and embedded tags in the DVD itself.
- The Pharmaceutical industry may have non-removable tags behind prescription labels
- The CE industry may have embedded tags or tags that should stay with the product throughout the Total Product Lifecycle to help drive efficiencies in reverse logistics and end of life processes.
- Governments such as Japan, may require non-removable tags on consumer electronics to promote end of life processes like environmentally friendly disposal and recycling.

We strongly urge you to take part in the EPCglobal Tag Alteration Joint Requirements Group and its critical work effort. So far, a core group of talented and energetic people who are eager to ensure EPC implantation is not compromised in any way have already started discussions. This group needs

additional End User participation. It's therefore absolutely critical to the successful implementation of EPC across the globe that your company gets involved. By joining the GS1 EPCglobal TA JRG you will ensure that the voice of your industry is heard and your requirements are represented.

For more information contact Audrey Kremer at audrey.kremer@gs1.org

Standards Development Process

The draft SDP version 1.5 has been created and JWG review has started. Expect the approved version posted on the website in the first quarter of 2009.

For more information about the SDP JWG contact Mark Frey at mfrey@epcglobalinc.org

Certification

A recent [analysis](#) of the certification program spanning 2 years showed that on the hardware side on average 44% of the products had failures during the pre-testing stage. For Software the figures are even higher reinforcing the need for certification as such in providing assurance that products work in an efficient manner and according to standards. Ultimately successful certification is the demonstration of the successful use of the EPCglobal royalty free standards and the culmination of the investments by the community.

The following companies have recently had products successfully pass Certification:

- EPCIS: SAP
- ALE: IBM, Lyngsoe Systems A/S, Institute for Logistics Information Technology
- Reader Management: Institute for Logistics Information Technology
- UHF Gen2 Tags/IC: Renesas Technology Corp., Toppan Printing Co., Ltd.

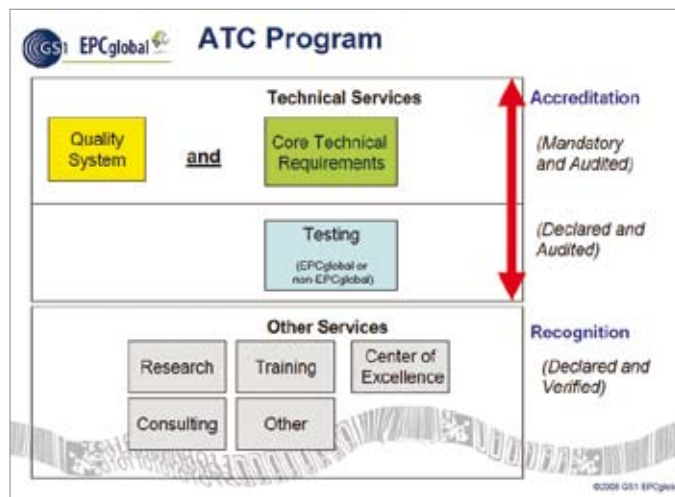
EPCIS VP (Validation Portal)

At the JAG plenary session in Bonn, Ron Moser (WalMart) and John Duker (P&G) together with Nicholas Fergusson (EPCglobal) gave a live [demonstration](#) of the [EPCIS Validation Portal](#) highlighting the online software tools ease of use and benefits it brings to trading partners in assessing and ensuring the correctness of data content when implementing EPCs systems. One of the key benefits of EPCIS VP is that it has proven to be a simple, easy-to-use tool that helps validate EPCIS data prior to sharing the data with trading partners. This will minimize data sharing failures and ensure uniform vocabulary among trading partners, thus allowing for more effective exchange of information.

Accredited Test Centers (ATC)

The 11 Accredited Test Centers provide a lot more than mere "Testing Services" since they have a wealth of experience and competence in RFID benefitting users from different industries in helping them find the right solutions and giving them confidence in the technology. To better reflect this, the ATC program has undergone a number of changes, the most noteworthy being that the accreditation [Framework](#) is now based on 4 core components:

1. EPCglobal Quality System (A subset of ISO 17025)
2. Technical Services (Core Technical requirements)
3. Testing Services
4. Recognized Services



Cross Industry Adoption and Implementation Group

European Adoption Program (EAP)

The European Adoption Programme has changed the name of the existent "mini" conferences known as former "EAP events" to "EPC in Action". This event series will be realised three times per year and will continue to focus on sharing customer experiences with EPC/RFID. The first "EPC in Action" event is planned to be on 26 February 2009 in Paris.

The second version of the "European Guideline for Retailers and their Suppliers in Europe" is in preparation and any retailer and manufacturer is still welcome to join this activity. For more information, please consult www.gs1.eu/guidelines.

Industry Action Groups

Retail Supply Chain (RSC IAG)

Best wishes to Mark Pollock, co-chair of the Retail Supply Chain IAG on his retirement from Kraft Foods, effective 1 December, 2008. Over the past several years of leading Kraft's RFID program and initiatives, Mark learned

much about the challenges of “re-wiring” individual and organizational mindsets to embrace and exploit opportunities for transformational change, and recognized that there are talented and energetic people



in the community focused on the effort to make the change happen. We wish him all the best in his next phase and appreciate his role in helping us face the challenge.

RTI (Pallet Tagging) Interest Group

The charter for the new RTI (Pallet Tagging) interest group was approved on 1 December, 2008 with a focus on guidelines for pallet identification and linking of objects on pallets. The new group will begin its effort shortly. The launch teleconference for this group will be held on 14 January 2009 and a possible first face-to-face meeting is scheduled on 11 February 2009 in Brussels.

Liquids and Metals Interest Group

GS1 EPCglobal recently asked your company to participate in a short survey sponsored by the Liquids and Metals Interest Group. The Liquids and Metals Interest Group was formed to identify performance issues while reading EPCglobal tags (UHF and HF); in particular, those on products and specific packaging configurations that contain liquids and/or metals. If most of the performance issues can be resolved by participating solution providers, we can produce EPCglobal guidelines for advocating preferred placement of tags and uses of technology to optimize reads for each identified configuration. If a subset of identified issues cannot be solved, we can work with the research community to seek additional solutions for the specific issues collectively identified.

If you already participated in this survey, we would like to thank you very much for taking the time to give us your responses.

As we need more input in order to be successful in creating extensive guidelines, we would like to hear from users at the middle and end points of supply chains where aggregations of product or products may introduce reading performance issues.

We are interested to hear from EPCglobal Subscribers, who are users, to fill out the survey. Solution Providers and GS1 Member Organizations, who have details of their users' operations and who can share the level of detail necessary to complete the survey are also encouraged to participate. We are also interested in documenting those solutions that work for known configurations of products.

Your contact information will be kept confidential and will only be used by the Interest Group facilitator in case the participants of the Liquids and Metal Interest Group have additional, specific questions or need a clarification.

Use the link provided to access the survey. This survey will stay open until January 12th, 2009, 7:00 am EST.

http://www.surveymonkey.com/s.aspx?sm=jDXkbe31cqPH_2bF4nraM0vA_3d_3d

Please read the introduction at the top of the survey and don't forget to press the done button at the bottom of the survey once you are finished. You can edit within the survey but once you press the done button you cannot edit further. If you have more than one use case, take the survey a second or third time; there is no limit. If you think of another use case a few days later, you can still go back into the survey to add a new use case.

In anticipation of multiple use cases being received, EPCglobal Inc will be encouraging the research community to participate in the L&M IG. This will provide a conduit for sharing emerging research that could be used to improve performance. EPCglobal Inc will be contacting the research community directly.

For more information regarding Liquids and Metals Interest Group, please use the following link http://www.epcglobalinc.org/apps/org/workgroup/rsc_iag_lm_ig/ You can also contact Mark Frey at mfrey@epcglobalinc.org or Ray Delnicki at rdelnicki@GS1US.org.

GS1 Healthcare – EPC related activities

Purdue Pharma expands and enhances serialisation and EPC/RFID programs

In June 2006, Purdue Pharma initiated an ambitious program to upgrade and expand their EPC/RFID and serialisation programs using GS1 Standards. This effort established RFID serialisation for bottles containing OxyContin® Tablets by collecting; item, to case, to pallet data relationships, to support item level track and trace, through the supply chain. By June 2007, Purdue Pharma was manufacturing and shipping bottles and cases of OxyContin® Tablets using GS1 EPCglobal UHF Gen2 standard, placing them ahead of the curve in complying with customer and regulatory requirements, and laying the foundation for addressing problems such as diversion and counterfeit drugs. One of the most comprehensive programs in the pharmaceutical industry, Purdue Pharma has tagged and collected data for over 4 million bottles of OxyContin® to date, using GS1 Standards.

View this case study by accessing the following link:

http://www.gs1us.org/Communities/Healthcare/HealthcareDocumentLibrary/tabid/166/DMXModule/586/Command/Core_Download/Method/attachment/Default.aspx?EntryId=317

Major milestone - AIDC Application Standards development work

The GS1 Healthcare work team 'AIDC Application Standards' has submitted their change request (CR) into the GS1 Global Standards Management Process (GSMP). This work



team has gathered global business, data and carrier requirements, since their formation in October 2006. It has finalised the so-called product grids, visualising which product should carry which product data, and decision trees, visualising

which carrier and symbology should be used for any given product as well as a decision tree for the human readable information. The GSMP work group will now take it through the GSMP to get to a ratified standard.

To join this work group, please contact Tom Heist at tom.heist@gs1.org

Transportation and Logistics Services (TLS IAG)

Tony Hollis of DHL has been named the new co-chair of the TLS IAG.

The Chain of Custody Task Group is in the process of forming a sub-task group called "The Standard Code Implementation Task Team". This group will include interested participants from the Consumer Electronics IAG and will be focused on SSCC's and their relationship with GIAI/SGTIN.

The Phase III of the Transportation and Logistics Pilot Program will be starting 10 December 2008 with a total of 4 shipments of 50 containers. The Pilot Program will finish at the end of February, 2009. The Pilot Program focuses on testing out the use of EPCIS to track the progress of physical products in cartons, containers and pallets across the supply chain using the trade lane from Tokyo to Amsterdam. EPCIS is the critical link to providing the supply chain visibility the Pilot Program is set to achieve. The GS1 GSIN will be used as the UCR in order to comply with customs identification requirements for shipments. The EPC tags will only be read by fixed readers. This will be more challenging than using handheld readers.



The use of active EPC/RFID (Extended Conveyance Asset Tag (XCAT)) and e-seal tags on sea containers as well as the application of active tags on pallet level will also be tested within the framework of the Pilot. These tests will serve to

drive the development of standards for conveyance asset tags and passive e-seals.

On 26 and 27 February 2009, a TLS event is planned and being hosted by GS1 Hong Kong. On 26 February the TLS IAG plan to provide an information session to Transportation and Logistics companies advising them of the progress of the TLS IAG and to invite comments/participation. On 27 February 2009 the "EPC/RFID Live Test Event" will be held demonstrating actual read events using different technologies and events that occur in Transportation and Logistics. The event will be

held at the Hong Kong Science Park. Further details will be posted on the EPCglobal web site.

For more information regarding the Transportation and Logistics IAG, please contact Shirley Arsenault at sarsenault@epcglobalinc.org

Consumer Electronics (CE IAG)

CE IAG participants are discussing key use cases in the context of Data Discovery

As a First Step, participants will discuss Forward Logistics which will consist of reviewing the following: tracing the product by manufacturer, tracing the product by retailers. The Repair and Maintenance use case will also be considered in the context of tracing the product and the benefits for consumers. The group then plans to discuss Product Recall, Recycle and Disposal as well as other relevant use cases.

EPC/RFID enabled End Of Life Processes for Consumer Electronics products

Key members of the CE IAG are finalizing the draft End Of Life Interest Group Charter. We are preparing for outreach activities to ensure the right participants are involved in this activity. More information and a call for action will be distributed to the community shortly.

- Phase two of the CE IAG work schedule consists of describing high-level business use cases for green logistics applications (reuse, recycling & disposal) and identifying areas where EPC/RFID could bring value.
- The Total Product Lifecycle (TPL) is of utmost importance to the CE IAG and efficient Recycling and Disposal processes are cornerstone processes.
- The use of EPC-enabled tags will help improve not only the tracking of CE products but also their life cycle management and EOL disposal, as well as the recycling of hazardous materials within the products



For more information on CE IAG activities contact Audrey Kremer (Audrey.kremer@gs1.org)

Technical Action Groups

Software Action Group (SAG)

Tag Data Translation Standard Working Group

The Tag Data Standard version 1.5 is coming closer to Last Call Working Draft (LCWD) and a presentation to SAG for review and comment should occur in early January 2009. The SAG reviews are normally 3 weeks long, so get ready for this important review.

This version of the TDS contains TID, User Memory, and filter value updates. The User Memory updates allow for General Specification Application Identifiers to be used. Additional inputs from the TD2 JRG and GS1 Architecture Group are being added to this standard too. Also, the draft specification will be mapped back to Tag Data JRG requirements and the 60-Day GS1 Architecture Review Report to make it easier for users to zero in on relevant sections more quickly.

The review of what's new in TDS 1.5 was also completed within the GS1 Architecture Group.

For more information about the TDTS WG contact Mark Frey at mfrey@epcglobalinc.org or Sylvia Stein at Sylvia.Stein@GS1.nl

ALE 1.1

ALE products that went through beta testing at Metlabs have resulted in some minor errata to be corrected in the Conformance Requirements and it will be made available to subscribers on the EPCglobal Website at <http://www.epcglobalinc.org/standards/ale> Look for a 1.0.2 version number next to the Conformance Requirements' title. Since last reported more companies have asked to be ALE 1.1 Certified and some additional errata has been identified. Expect an updated 1.0.3 version of the Conformance Requirements to be published in January of 2009.

Reader Operations WG

This specification helps to automate the updating and maintenance of a network of readers. It specifies initial configuration requirements that an RFID Reader or Client must satisfy, in order for DCI operations to be successful.

The DCI (Discovery, Configuration, and Initialization) specification should be ratified the first part of 2009. The IETF CAPWAP specification that DCI references should also become a standard by year end.

Core Business Vocabulary SAG WG

The development of the specification is close to Last Call Working Draft Status. The movement of the requirements through the Standards Develop Process is planned in January 2009 whereas ratification is anticipated for the first quarter of 2009.

Hardware Action Group

The item-level tagging standards for UHF and HF:

- UHF Air Interface 1&2 Work Group: The EPCglobal Board of Governors ratified the new UHF Generation-2 Class-1 air interface protocol v1.2.0. This new standard extends the item-level tagging capabilities for UHF Gen 2. Optional features were added to enable tags to indicate whether there are contents in user memory, to provide tamper-proof security for contents in user memory, and to enable recommissioning of tags.
- HF Air Interface WG. The Working Group voted to process their specification as two Recommended Specifications. The WG chose this route to enable the HF work to be available for

sharing with ISO/IEC SC31/WG4/SG3. The Recommended Specification #1 was shared with ISO/IEC SC31/WG4/SG3 in April 2008. The Proposed Specification #2 has been in legal review and when completed will become Recommended Specification #2. This document will then be presented to the EPCglobal Board of Governors.

Test methods for end-user field applications are being developed in the Tag, Label, Reader, and Printer Performance (TLRPP) Working Group:

- TLRPP is now working on performance test methods for the Media & Entertainment DVD use cases.
- Conveyance Asset Tag (CAT) requirements are awaiting development of environmental performance test methods.
- Any RFID test lab wishing to participate in the Laboratory Alignment Round Robin is welcome to do so at this time. The purpose of this activity is to determine repeatability of sensitivity measurements between different lab set-ups. A set of 3 UHF tags created as reference tags are being shipped between each participating lab for testing. Each lab must report the results of their testing to the TLRPP WG for comparison to all other participating labs. At this time, the following labs are participating:
 - o Avery Dennison (USA)
 - o Cheng Loong (Taiwan, R.O.C.)
 - o CISC (Austria)
 - o European EPC Competence Center (Germany)
 - o HP Brazil (Brazil)
 - o Intermec (USA)
 - o Kimberly-Clark (USA)
 - o MET Labs (USA)
 - o NXP (Austria)
 - o P&G (USA)
 - o University of Arkansas (USA)
 - o UPM Raflatac (Finland)
 - o VISN (China)
 - o Voyantic (Finland)
- The "TLRPP Tag Parameters & Test Methods v1.1.3" is now available to the wider EPCglobal community at www.epcglobalinc.org
- The "Field Strength Measurement Test Method v1.2" and "Field Strength Measurement Evaluation v1.0" is awaiting approval in the Technical Steering Committee.
- The "Static Test Method v1.9.4" is awaiting approval in the Technical Steering Committee.
- To join the TLRPP WG, for the opt-in agreement, please contact the EPCglobal Inc. Help Desk at epcinchelp@epcglobalinc.org

HAG Active Tagging ad hoc Committee (HAT) has formally opened up a Call for Participation. The EPCglobal Active Tagging Joint Requirements Group developed a set of requirements based on end-user business needs for the exchange of relevant business data using Active Tags. An Active tag is an RFID tag having a battery on-board that

enables the tag to initiate its own radio signal. As part of the development of those Active Tagging requirements, the Group identified standards previously developed and specifications in development by other standards organizations.

Based on input from both the Business Steering Committee and Technical Steering Committee, the HAT will do an in depth analysis preparing a technical gap analysis on how existing specifications and standards match up against Active Tagging JRG requirements. An important component of this gap analysis will include description of the technical work that would have to be accomplished in order for an existing specification or standard to be able to meet all of the Active Tagging user requirements. The ad hoc committee will produce a written document of their Recommendation based on review of the data from the gap analysis.

The launch teleconference for this group will be held in the week of 15 December, 2008, to allow time for the initial group of Committee members to join. The teleconference information will be posted to the HAT mailing list only.

To join the Committee, please go to the link below and click on "Join group" in the HAT home page (http://www.epcglobalinc.org/apps/org/workgroup/hag_hat_ad_hoc/index.php). If you encounter problems accessing this link, please contact the EPCglobal Inc. Help Desk (epcinchelp@epcglobalinc.org).

The Regulatory Affairs ad hoc Committee (RAC) is an active mailing list in the HAG. This ad hoc supports global regulatory work as needed. The RAC is open to all Subscribers of EPCglobal in good standing. To join the mailing list, please click on the following link and follow the instructions to self-add: http://www.epcglobalinc.org/apps/org/workgroup/hag_ad_hoc_regulatory/index.php. If you are experiencing problems joining this Committee, please contact the EPCglobal Inc. Help Desk at epcinchelp@epcglobalinc.org.

For more information on activities in the HAG, please contact the HAG facilitator Giselle Ow-Yang at gowyang@epcglobalinc.org.

Missing Identification Resolution Group

At first sight, a missing identification looks no different from other implementation challenges. Assigning a new internal identification number and put the items back again to the process line to make its way in the supply chain was the solution thought to be straightforward. We hope the additional data will help the items on its way through the downstream, and in the worst case that it will be someone else's problem. This is an idea that causes to quick fix important matters which are generally important to all supply chain but may not seem specifically important to the individual or a company. Before this work group, this topic has been treated as a blind spot. If you look at it directly you won't see it unless you know precisely what it is.

In implementations of serialized item level identification, when an identification unit (tag or barcode) gets lost or

in the case of RFID the tag no longer responds, the party downstream from the source does not have clear direction on how to manage it back. In case higher identification level numbers such as Global Trade Identification Number (GTIN), commonly referred as barcode number, batch number or pallet information gets lots it isn't crucial as in the case of serialized identification. The reason behind comes from the nature of the serial identification that the serial identification uniquely identifies the item. When this information isn't available, the benefits appearing from serialization are no longer possible.

There is also another challenge when the source is not interested in serialized identification of items but further downstream there is a need for serialized identification, then parties upstream will have difficulty making sure that the serial number is unique.

As process flows are complex in the business world, this work group currently discusses use cases and possible answers to resolve it. Based on this group, the Missing Identification Work Group recognizes that GS1 EPCglobal and GS1 Barcodes might have to form their own groups to generate specific business requirements based on the output of this group and their current standards. This is happening right now.

The Missing Identification Resolution Work Group finalized the use cases and is moving forward to resolve them. The first face-to-face meeting was held on 9 December in Amsterdam to lay the possible solutions before the joint GSMP-JAG Meeting in Los Angeles.

For further information, please contact the facilitators: Ilteris Oney at ilteris.oney@gs1.org or Sylvia Stein at sylvia.stein@gs1.nl.

GRIFS organises workshops to build the Global RFID Standards Forum

State of the Art report on Global RFID Standardisation

This GRIFS report provides an inventory of global RFID standards and identifies all RFID-related standards organisations, the geographical and technical scope of their work, and the opportunities and risks of collaboration, including gap/overlap analysis. The scope of the report focuses on the use of RFID in the supply chain including the tracking and tracing of physical objects.

The report's conclusion highlights the need for a significantly greater amount of co-operation between RFID standards development organisations, particularly in the areas of universal identification, security and high-frequency standards that are increasingly used on products but that also use smart cards and mobile phones for transmission. The project participants also identify the need for better information about standards and their state of development and propose that the standard situation analysis should be kept up-to-date through an online database. The maintenance of a database would allow the identification of potential overlaps, new standardisation areas and provide

the application developers and the RFID community with an accurate overview of all relevant RFID standards.

Out of this report, the team is currently developing a dynamic database of standards that should soon become an essential tool to stay up to date on RFID standardisation.

The report is available at <http://www.grifs-project.eu/index.php/downloads/en/>

Concrete actions to build a Forum of Collaboration on RFID Standardisation

The issues identified in the report will be addressed in the next phase of the GRIFS project, which aims to create a collaborative forum to assist in the co-ordination and alignment of RFID standards development globally. A Memorandum of Understanding has been drafted to give a reliable, yet flexible structure to the Forum, and a series of workshops is currently being organised to gather the inputs of diverse regions and sectors in relation to standardisation issues and potential lack of collaboration.

Workshops were organised in Tokyo and Hong Kong in September and November, and the last one will be organised in Brussels on 20 February 2009.

After this last workshop, the Forum will be ready to be launched as of May 2009.

For more information on the GRIFS project and the workshops, visit <http://www.grifs-project.eu> or contact info@grifs-project.eu

Upcoming Events



GS1 EPCglobal Events

- EPC in Action, 26 February, 2009 Paris, France
- Joint GSMP & JAG Event, 23-27 March, 2009 Los Angeles, USA
- 2009 RFID/EPC Global Conference, 16-17 April, 2009 Seoul, South Korea

- RFID World Asia incorporating EPCglobal/RFID, 22-24 April, 2009 Singapore
- EPC in Action, 11 June, 2009 Budapest, Hungary

Visit <http://www.epcglobalinc.org/events> for more information.

Other GS1 Events

- GS1 Global Forum 2009, 16-20 February, 2009 Brussels, Belgium
- GS1 New Zealand Conference & 30th Anniversary Celebrations, 25-26 February, 2009 Auckland, New Zealand
- GS1 Latin American Regional Forum, 7-9 July, 2009 El Salvador
- GS1 MEMA Regional Forum, 5-8 October, 2009 Tunis, Tunisia
- GS1 in Europe Regional Forum, 14-16 October, 2009 Vienna, Austria
- GS1 Latin American Regional Forum, 7-9 July, 2009 El Salvador
- GS1 Asia Pacific Regional Forum, 10-13 November, 2009 Hong Kong

Visit <http://www.epcglobalinc.org/events> for more information.

GS1 EPCglobal Newsletter Publication

If you have ideas to improve this newsletter, or article topics you would like to suggest, please contact Karl Van der Spiegel at karl.vanderspiegel@gs1.org

GS1 EPCglobal Subscriber's Website Tips

Did you know that you can view all employees from your company that have access to groups and what groups they are involved in? Login to <http://www.epcglobalinc.org>, click on "My Groups", look midway down the page for "my company's members", click on the + next to their names to view their groups.. If you notice someone listed who has left your company, please notify the EPC admin at epcinchelp@lists.epcglobalinc.org.

Getting too many emails from groups you are not interested in? You can unsubscribe yourself from these groups, but still remain a member of the group. To do so, go to "my groups", click on the "email" tab, click unsubscribe next to each group you no longer want emails.



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