

Think & Share, no monopoly but interoperability for Barcode & RFID. Singapore, the host of the 2005 ISO/IEC JTC 1/SC 31 meeting on AIDC.



Singapore, June 9&10, has reflected the amount of work being done the last 11 years after establishing ISO/IEC JTC 1/SC 31, the committee for standardising automatic data capture technologies and methodologies. With help from the territorial standardisation institutions of Asia, Australia, Africa, America, Europe and its experts, SC 31 produced quite an impressive set of standards for Barcode, 2D, RFID; the relevant data being published already for public availability and use. Some of them are under 5 years revision phase and already require upgrading. Alan Haberman, the chairman of the SC 31 committee took the opportunity to motivate his delegates, as experts of

the specific fields, to do even more in developing synergy and co-operation.

„**THINK AND SHARE**“, was his message, thinking about what could be done better to help the users to integrate the technologies in the IT infrastructures and share the experiences in cross industry area's. What should be done, to make the committee more valuable for users and suppliers? Obviously it is not enough, that most of the relevant ISO/IEC standards are available now, not excluding practised methods, but considering different compatible schemes (e.g. symbologies and data structures) it is important to achieve interoperability between the industries. It may be true that at this point even more guidance is needed on how to use Barcode, 2D and RFID more efficiently; those are good suggestions under the scope of globalisation and communication between the players in industry, distribution and health care.

Having got the standards for linear Barcodes, for the 2D symbologies, the 6 standards for RFID carrier and its data protocols, it would not work to simply pick

any one detail out and to try to rule the world with it: in other words a lacking interoperability under a global scope is not the solution for today. This surely means stimulation, away from monopoly, but toward interoperable solutions. In fact functional interoperability is achieved totally on Barcode and 2D level and its data information. As an example the same Code 128 Barcode specification

(ISO/IEC 15417) is used for carrying the data elements with the ASC structure in industries, with the EAN structure, preferred by trade and POS and with Health Care Barcode (HIBC) exactly in the same way without the slightest difference. Even **interoperability between Barcode and RFID** is embedded in the data protocol specifications for RFID (ISO/IEC 15962/3). So what the chairman meant, even if not specifically expressed, was the encouragement to upgrade the ISO/IEC 18000, "part 6" specification for the UHF band 860 to 890 MHz in to a version "part 6C" properly. This is in process and shall surely retain the industrial features but at



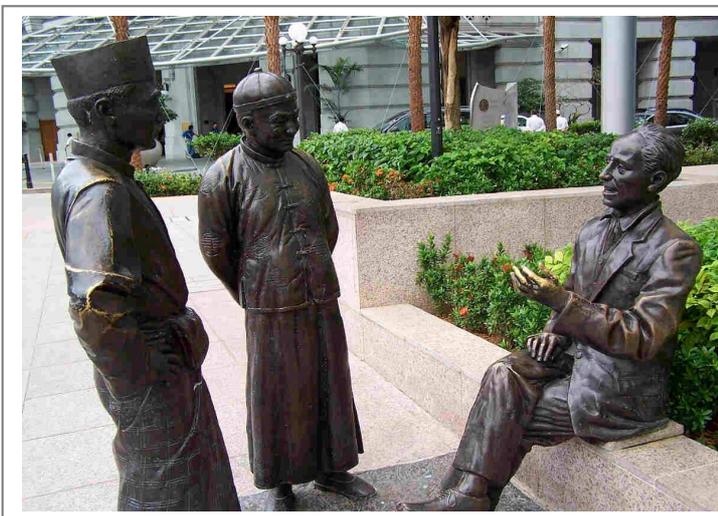
the same time integrate the latest features of the EPC Global developments of GS1, former EAN/UCC.

The task is not only technical but as well a balance between a fully open license free system against a restricted numbering system under licenses. It is for instance of vital importance to know, that the EPC structure is just set up for carrying the EAN numbering system with its 5 digit product code, while the global ISO/IEC data structures are set for variable and alpha numeric product codes. Nevertheless, the users will make decisions based on the technical specifications they know and on what they want.

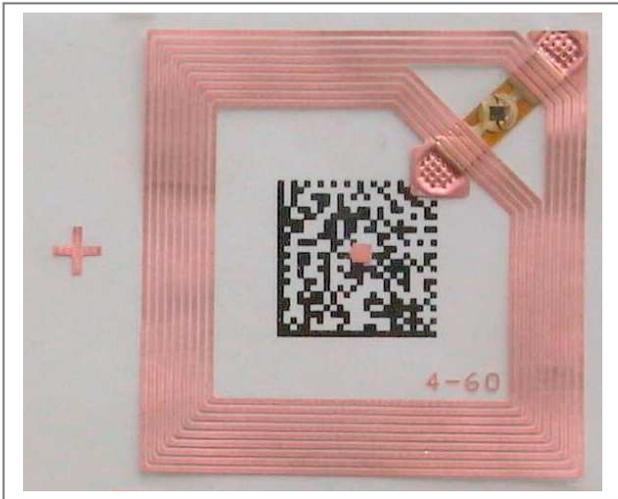


The chairman is quite right in raising the issue of giving better guidance so that the users have a better knowledge. However guidance means first information, but a pre-requisite is the availability of technical specifications in the hands of the application builders. Those are even linked with ISO committees such as the ISO Joint Working Group of ISO TC 122 **Product Packaging** and TC 104 Freight Containers who are currently working out the recommendations for the applications of RFID for item management in logistics. What they need and get are the products of SC 31, the specifications of actual RFID Air Interfaces for the <135KHz, 13,56MHz, 433MHz, 860-960MHz and 2,4 GHz bands but also the necessary data protocols. The experiences of experts and input of the users will help in specifying the right Air Interface (frequency) for the proper application. The RFID experts state that the UHF band of 860 to 960MHz is the most complex, while 13,56 MHz is considered as a pretty robust and easy system in terms of integration. But experts discussions outside the agenda also touch the fast moving development but also the need for less complex, easy to use, systems. Printable RFID tags, currently under development, are indications that there is no dead end to a technology which is 20 years young but gets amazing upgrading these day's. SC 31 has to and will address that the process for amendments to the current ISO/IEC 18000-x Air Interface series, has been initiated and will move on soon. There is a chance to add the parameters for such new developments as simple RFID tags made from flexible polymer material without silicon. A new work item is the specification for RFID Application Requirement Profiles. This task shall include environmental considerations, recycling etc. Under the leadership of working group 4, tests are in process for the different RFID technologies to show artefacts and to make functionalities more transparent. Not to forget are the liaison between SC 31 and regulatory institutions for frequency bands such as ETSI and ITU for co-ordination of the country related requirements regarding power and performance but also liaison to all parties interested in AIDC.

While the interest in RFID seems to be exploding, RFID was not dominating the scenario in Singapore at all. Syntax for high capacity ISO/IEC media, where the Text Element Identifiers



(TEI's) will integrate, is currently under revision supported by Aircraft & Space industries and by the US DOD. Matrix code with Datamatrix (ISO/IEC 16022) and QR code (ISO/IEC 18004) get high attention for direct marking of all kind of products. Currently test specifications are reported, for this specific application, as under completion by SC 31, WG 3, who have met in Singapore just prior to the plenary. Aside of the meetings Germany's norm "DIN V66401 Unique Identification Mark" for small items attracted interest by the experts involved in direct marking such as delegates from Japan, UK, US. 10 of



the national representatives followed the call from the chairman to report on the practises of Automatic Identification techniques in their respective countries. The degree of usage of Barcode in general is reported to be high, for 2-dimensional symbologies rising but for RFID standards its still under estimation. Where ISO/IEC Barcode does an excellent job for supply chain management around the world, RFID did not manage to get marginal shares yet. RFID applications are still bound to individual projects. It is one of the tasks of SC 31 to promote global use of it wherever convenient. Without such ISO/IEC standards being produced, the chance for the widespread use of this technology would not be estimated as

comparable at all with the success of Barcode and 2D. This justifies the amount of work and the man power spent to achieve cross country and cross sector solutions for item management, enabled by agreements to standards for automatic data capture. A performance metrics* submitted to JTC mirrors the tremendous amount of work being done and being underway. For 2004 it was reported that 520 delegates attended meetings, 38 standards have been published, 35 active projects run and 17 new projects have been started. Lets think about most profit gaining from the outcome and how to share the expertise on it. Sharing the information** on it would generate even more synergy than the purely technical standards would offer, "lets share".

Noted Singapore June 10, 2005
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Standards published since 1999	38 specifications
Active projects	35 projects
New projects for 2004/2005	17 new projects

Source: document ISO/IEC JTC1/SC31 N1865, 2005-06-10

**Source of information: See Multi Industrie Symposium, www.EurodataCouncil.org

