

SCM Survey Kuala Lumpur /Bangkok

Schedule: 2009.11.01~11.07

2009.11.01 Kansai ⇒Kuala Lumpur

2009.11.02 09:00-17:00 Survey DENSO Malaysia

2009.11.03 11:00-15:30 Meeting with SIRIM

2009.11.03 Kuala Lumpur ⇒Bangkok

2009.11.04 09:00-17:00 Survey DENSO Thailand, K-LINE

2009.11.04 18:00-19:00 Meeting with NECTEC

2009.11.05 07:00-12:00 Meeting with Chan Wanich

2009.11.06 09:00-17:00 Meeting with TISI, Survey TOSHIBA Logistic

2009.11.06 Bangkok ⇒Chubu (+1)

2009 年 11 月 1 日～7 日の日程でクアラルンプールとバンコクを訪問した。訪問の目的は、日本提案（データキャリア利用ガイド、モバイル QR コード）への理解と賛成票獲得、データキャリア利用ガイド作成のための現地調査（通い箱利用状況調査）、および QR コードの普及啓発である。

SIRIM: Standard and Industrial Research Institute of Malaysia

NECTEC: National Electronics and Computer Technology Center

TISI: Thai Industrial Standards Institute ministry of Industry





Parkroyal Kuala Lumpur



Parkroyal Kuala Lumpur



2009.11.03 Parkroyalから



平成 21 年 10 月 29 日

株式会社デンソーウェーブ

専務取締役 永井 登 殿

社団法人日本自動認識システム協会
専務理事 高田 敏雄



リターナブル容器へのダイレクトマーキングのマレーシア・タイの調査派遣の依頼

拝啓 貴社ますますご清栄のこととお喜び申し上げます。

平素は、当協会の事業に格別のご協力を賜り、ありがとうございます。

今回、リターナブル容器へのダイレクトマーキングの国際標準化（ISO規格）推進する一環として、マレーシア・タイ国の調査及び説明して理解を図るため、貴社柴田 彰殿へ次の内容で派遣していただきたく、お願い申し上げます。

敬具

－ 記 －

目的 : タイやマレーシア国にリターナブル容器へのダイレクトマーキングの国際標準化（ISO規格）推進する一環として、マレーシア・タイ国の調査及び説明して理解を図る。

出張先 : タイとマレーシア国

出張期間 : 2009年11月1日 ～ 2009年11月7日（6泊7日）

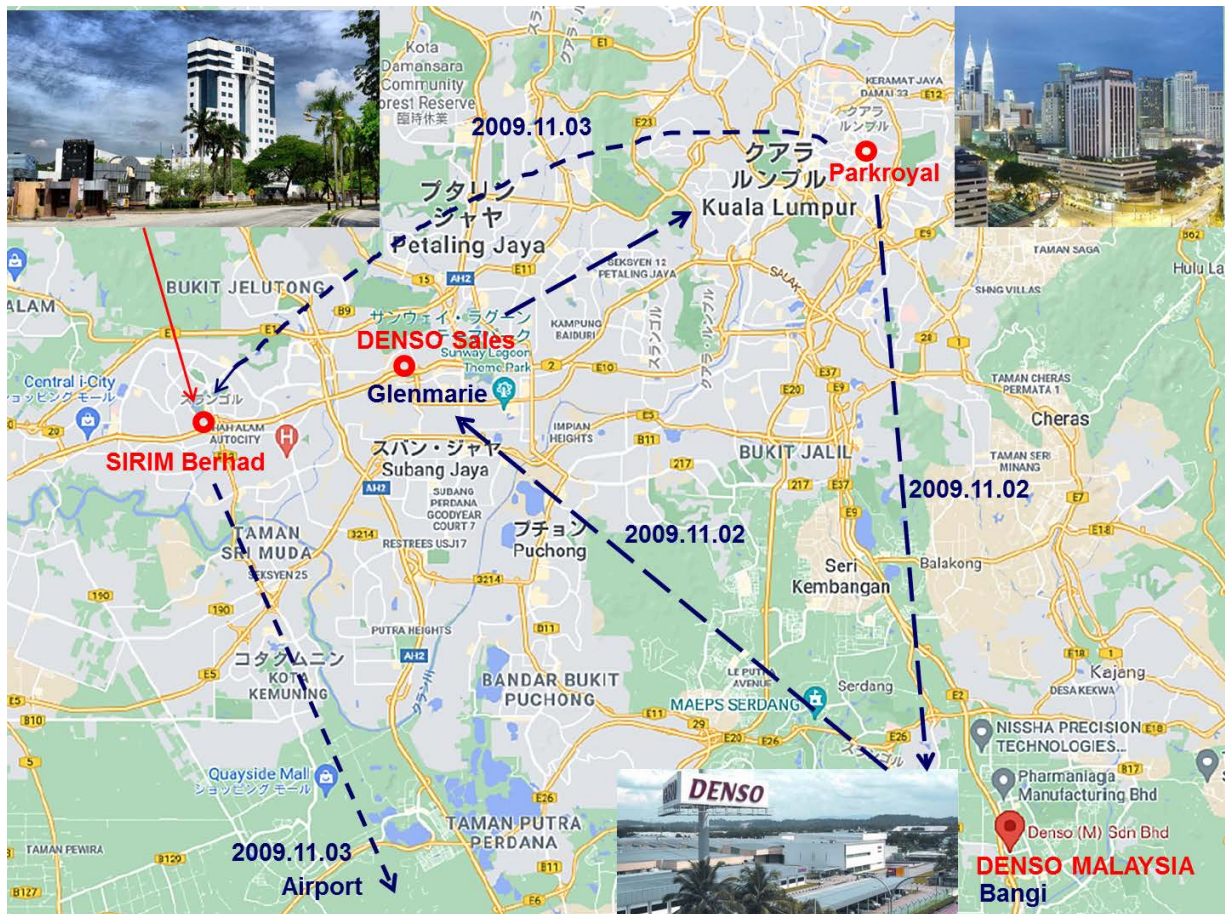
経費について: リターナブル容器へのダイレクトマーキングの国際標準化事業から、旅費の一部負担とします。（負担費用 30 万円位請負元の査定によります。なお、航空料金と宿泊、日当は別になります。）

問合せ先 : 〒101-0032 東京都千代田区岩本町1-9-5 FKビル

社団法人日本自動認識システム協会

担当 : 今井 弘 (hr-imai@jaisa.or.jp, Tel: 050-8864-1893)

以上



DENSO (MALAYSIA) SDN. BHD.

Lot 2, Jalan P/1, Section 13, 43650 Bandar Baru Bangi,
Selangor Darul Ehsan, Malaysia

DENSO

R-Con (Returnable Container) Project

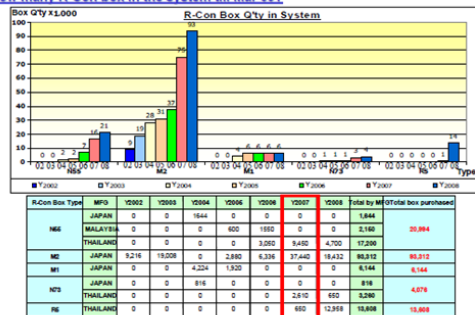
Agenda

1. R-Con usage FY 02-09
2. R-Con Implementation Result FY08
3. R-Con Impact To Environment Y09 (till Mar'10)



DENSO

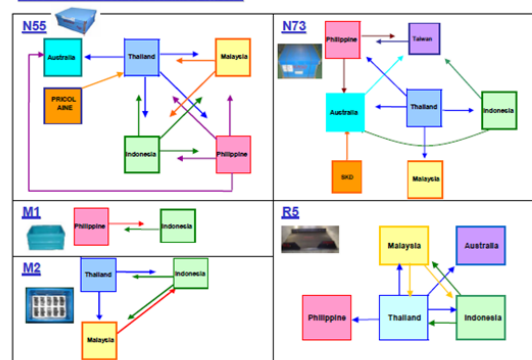
How many R-Con box in the system till Mar'09?



J-FRONT (N55) - We purchased around 5,000 boxes in FY07 because DENSO expanded to use this box a lot in ASEAN.
[N55] - We purchased around 30,000 boxes in FY07 because DENSO expanded this box to CHINA, STR.
[N73] - We purchased around 2,000 boxes in FY07 because DENSO planned to expand to AAA and DENSO.
[M1] - DENSO decided to implement J-FRONT box. So, we purchased around 13,000 pcs in FY08.

DENSO

Who used R-Con box in this region?



2009.11.02 DNMY BANGI Factory









2009.11.02 DNMY BANGI Warehouse



2009.11.02 DNMY BANGI Delivery Warehouse



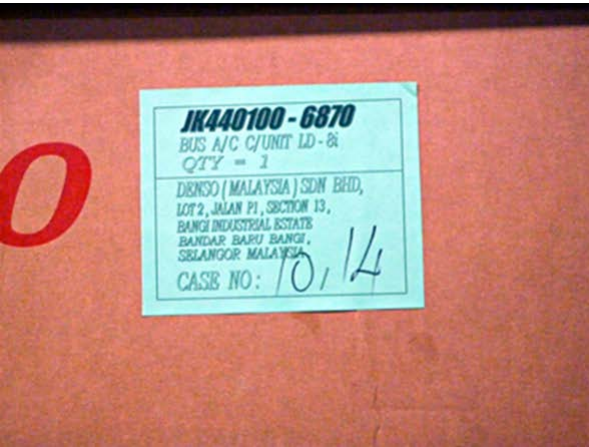
2009.11.02 DNMY BANGI Delivery Warehouse



2009.11.02 DNMY Glenmarie Warehouse



2009.11.02 DNMY Glenmarie Warehouse



SIRIM Berhad



1 Persiaran Dato' Menteri, P.O. Box 7035, Section 2,
40700 Shah Alam, Selangor, Malaysia

No	Organisation & Address	Members
Chairman SC31 Malaysia		
1.	<u>Malaysian Industry-Government Group for High Technology (MIGHT)</u> MIGHT, Level 6, Block 2, Menara PjH, 62100 Putrajaya	Dr Azmi Hassan Senior Associate
Secretary		
2.	<u>SIRIM Berhad</u> Standards Management Department 1, Persiaran Dato' Menteri, Section 2, P.O Box 7035, 40911 Shah Alam, Selangor, Malaysia	Mr. Muhaimin Mat Salleh
Members		
3.	<u>Universiti Putra Malaysia (UPM)</u> Jabatan Kejuruteraan Sistem Komputer dan Komunikasi, Fakulti Kejuruteraan, Universiti Putra Malaysia 43400 UPM Serdang, Selangor	P*) Assoc Prof. Dr. Mohd Adzir bin Mahdi A*) Dr. Raja Syamsul Azmir Raja Abdullah
4.	<u>SIRIM QAS International Sdn Bhd</u> Seksyen Komunikasi dan Multimedia SIRIM QAS International Sdn Bhd 1, Persiaran Dato' Menteri, Section 2, P.O box 7035, 40911 Shah Alam, Selangor.	P*) Ms. Aida Razana bt Omar A*) Ms. Erdawati bt Mohd Kasrip
5.	<u>Ministry of Home Affairs</u> Bahagian Pengurusan Teknologi Maklumat, Kementerian Dalam Negeri, Aras 6, Blok D2, Kompleks D, 62546 Putrajaya.	P*) Mr. Shareh Nordin bin Shareh Ali A*) Ms. Latipah bt Omar
6.	<u>SIRIM Berhad</u> Pusat Teknologi Pembuatan Termaju (AMTC) Lot P1 5285 Off Jalan Lebuhraya Puchong-Sungai Besi, 57000 Bukit Jalil, Kuala Lumpur.	(Re-nomination)

7.	<u>MIMOS</u> MIMOS Berhad Taman Teknologi Malaysia 57000 Kuala Lumpur	P*) Prof. Dr. Masuri Othman
8.	<u>Universiti Kebangsaan Malaysia (UKM)</u> Fakulti Kejuruteraan Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor	P*) Prof. Dr. Burhanuddin Yeop Majlis A*) Dr. Hafizah Husain
9.	<u>Malaysian Administrative Modernisation and Management Planning Unit (MAMPU)</u> Unit Pemodenan Tadbiran dan Perancangan Pengurusan Malaysia JPM, Aras 5, B1, Kompleks JPM, Pusat Pentadbiran Kerajaan Persekutuan, 62505 PUTRAJAYA.	P*) Mr. Nik Azmin bin Nik Hussain A*) Ms. Noor Haswani Hassan
10.	<u>Malaysian Communications and Multimedia Commission (MCMC)</u> Malaysian Communications and Multimedia Commission, Off Persiaran Multimedia, 63000 Cyberjaya, Selangor	P*) Mr. Yow Lock Sen A*) Ms. Siti Azrah Ab. Aziz
11.	<u>AGILENT Technologies (M) Sdn Bhd</u> Agilent Technologies Sales (Malaysia) Sdn Bhd Unit 201 Level 2 Uptown 2, 2 Jalan SS21/37 Damansara Uptown, 47400 Petaling Jaya, Selangor	P*) Mr. John Kong Fook Min A*) Mr. Chin Kean Khoong

P* permanent member
A* alternate member



**AUTOMATIC IDENTIFICATION AND DATA CAPTURE
TECHNIQUES**

DISCUSSION ON JTC 1/SC 31 ISSUES

(MALAYSIA AND JAPAN)

3rd November 2009 (Tuesday)

**MIGHT, Board Room,
Menara PJH, Putrajaya**

Mobile Phone and Data Capture (AIDC) Technology

Japan Automatic Identification System Association
Director of Research and Development Center
Akira Shibata

1. Historical Background

Introduction of Automatic Identification and Data Capture (AIDC) technology may not be feasible unless ICT evolves to become a standard technology widely used in each country. The AIDC is a technology equipped with a specific ability for connecting information on a data carrier included in the target object that is to be scanned and the information accumulated in a database. More precisely, digitalization of information and development of a database required to centrally collect the information will be fairly difficult without an advanced digital (computer) technology. In that regard, the AIDC technology serves as a link between the database and the information obtained in real space.

Looking back the history of data carriers (linear symbols, two-dimensional symbols, RFID, biometrics and ID cards), they met their first turning point around 1985. To start with, Intel Corporation developed an early type of CPU, which is a backbone of computer system, the CPU "4040" in 1971, and then "8080" (8 bits) in 1978, "80286" (16 bits) in 1982 and "80386" (32 bits) in 1985, respectively. In the history of computer world, a major breakthrough came in 1981 when IBM released its personal computer called "IBM PC". It is widely recognized that this IBM PC used Microsoft's MS-DOS for its operating system. Thereafter, a drastic increase in the capacity of information in the database triggered a rapid expansion of AIDC applications.

The second turning point of data carrier was the mid 1990s. In 1992, URL (Uniform Resource Locator), HTML (HyperText Markup Language) and HTTP (HyperText Transfer Protocol) were developed and collectively termed as "WWW (World Wide Web)". Following that, in 1995, Microsoft developed the "Internet Explorer" web browser and opened it together with Windows95 to the public free of charge. This was a beginning of another era, marking a new way of data carrier applications attributed to a wide spread use of Internet communications networks.

Then, the third turning point came in the mid 2000s when new applications ideally suitable for mobile phones were developed. Integration of QR Code and its reader/writer in a mobile phone began in 2003, which was followed by the implementation of IC card in 2005 and then a TV feature (multi-media), or so-called One-Segment broadcasting in Japan, in 2006. By using a mobile phone as a personal tool, a new kind of business strategy from

**Research & Development
on Standard Approval**

**Standardization of 2D Symbol Direct Marking
on Product/Part and Automatic Reading
Technique**

Progress Report 2003

Japan Automatic Identification Systems Association

CHAPTER 1. GENERAL

1. Outline of Promotion Business

The importance of product traceability has been widely discussed in these days. Information required for the product traceability is used to prove quality traceability for ISO9000, to promote reuse and recycling, and to control dangerous material and environmental pollutant. Many possible data media, such as linear/two-dimensional (2D) symbols and RFID, can be attached to each product. When the information must be kept semi-permanently with low cost, two-dimensional (2D) symbol directly marked on the product is most suitable.

Compared to linear symbol, 2D symbol can encode more data and can be printed on a smaller space. In the manufacturing industry, 2D symbol encoding various information on each product is printed on the paper or aluminum label/slip and then attached to the product or its package to achieve integration of product and information.

However, the integration of product and information is not completely perfect, because the label is sometimes peeled off and lost or replaced on purpose, and reading error occurs due to dirty or torn label. To solve these problems, early introduction of direct marking on the product is strongly expected.

Although the products subject to direct marking are made of various materials, such as metal and plastic, and there are wide variety of marking methods, such as laser marking and dot peening, no standard on marking and reading techniques has been established. Now the standardization of direct marking is our urgent task.

In order to complete the above task, we select materials, make samples using four types of marking methods, evaluate the quality of each sample, make recommendation for each marking method based on the result of quality evaluation. As a result, we prepare the draft of international standard covering the principle of each marking method, important point for implementation, recommendation on the range of materials acceptable for each marking method, recommended wavelength and incidence angle of the lighting unit, marking grade, etc, and submit it to ISO/IEC JTC1 SC31 for approval.

This project is closely correlated with the technique to print linear/2D symbols on paper. Therefore, compliance to the international standard on print quality of paper labels must be considered.

2. Schedule

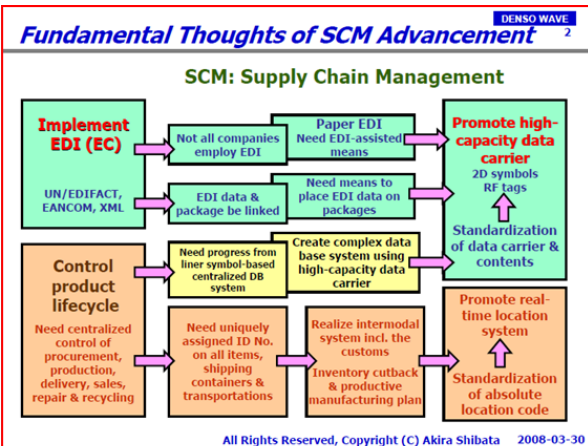
Action item	FY2003	FY2004	FY2005
1) Develop direct marking techniques	Mark on flat surface (QR/ μ QR/DataMatrix)	Mark on curved surface (QR/ μ QR/DataMatrix) Mark on semiconductor/surface treatment materials	
2) Develop reading techniques	Evaluate marking on flat surface (QR/ μ QR/DataMatrix)	Evaluate marking on curved surface (QR/ μ QR/DataMatrix) Evaluate marking on semiconductor/surface treatment materials	Evaluate reading weatherability
3) Plan standardization	Submit NWIP	WD Complete WD Establish PDTR	DTR Publish TR Establish DTR

DENSO WAVE 1

Global Logistics Platform using Data Carrier

DENSO WAVE INCORPORATED
Akira Shibata

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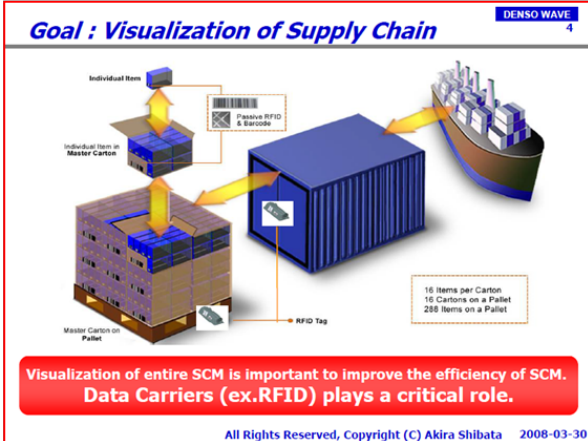
DENSO WAVE 3

Goal : Real Time Cargo Tracking System

Anywhere in the world! All freight cargos!

Lads, Dads & Granddads
Real Time Locating Systems

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SC31/WG6 Cedar Rapids Meeting

1/10

Implementation guidance for Optically Readable Media (ORM) reader incorporated in a mobile device and ORM displayed on mobile device



2009. 5. 19.
Hiromitsu Takai

Summary of Presentation

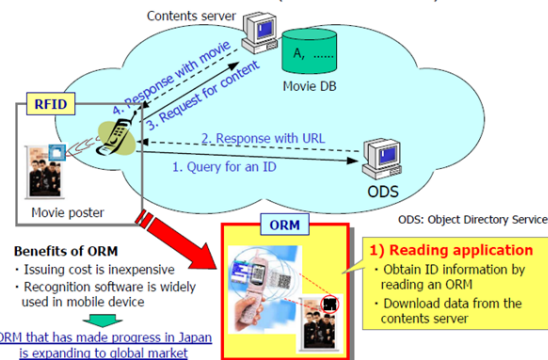
2/10

1. Position of mobile ORM within WG6
2. Progress of ORM mobile applications
3. Problems in implementing ORM and required standardization
4. Outline of projected NP
5. Proposed table of contents

1. Position of mobile ORM within WG6

3/10

Mobile RFID service reference model (based on MIIMn0026)

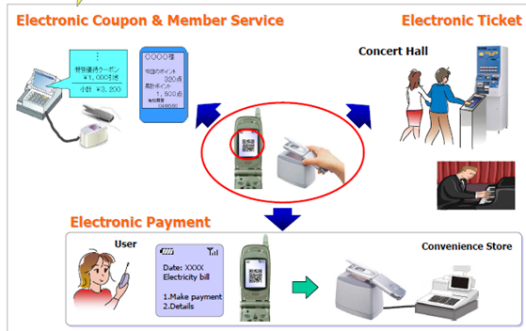


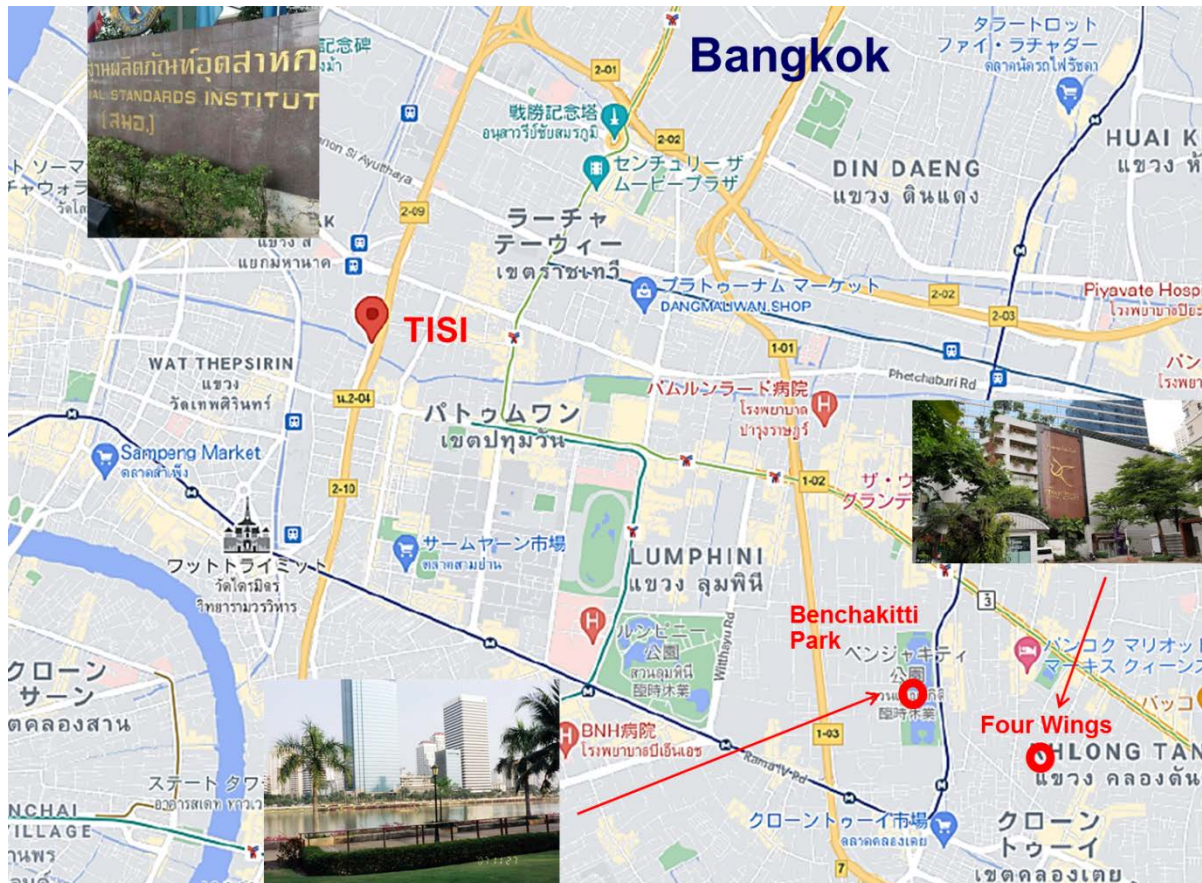
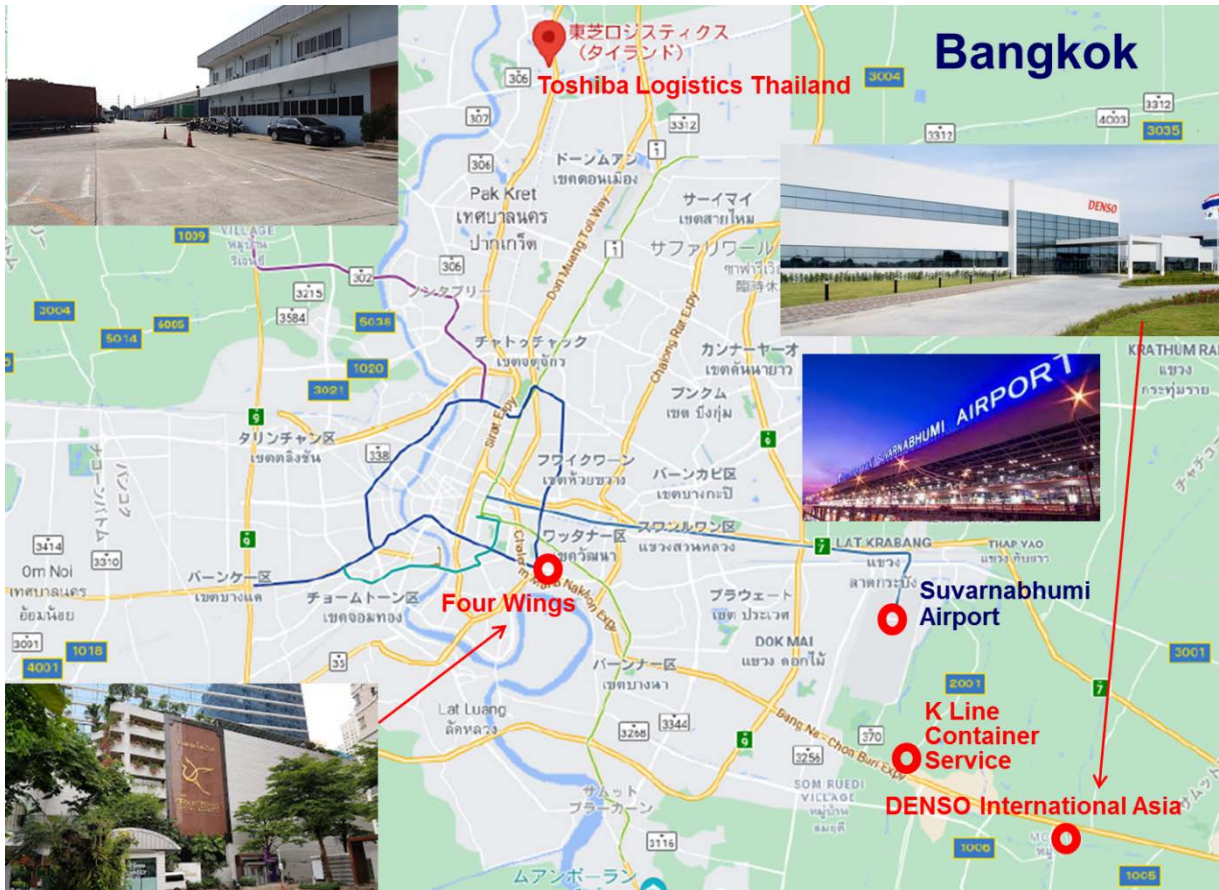
1. Position of mobile ORM within WG6 (continued)

4/10

2) Display application

Indicate an ORM on the mobile display to use it as data media.







Agenda

Date		Time	Agenda	Place	Attendee
4/11/09	Wed	10:30-12:00	Internal meeting DNWA and DSTH	DSTH (Communication Area)	DNWA DNSI DSTH
		16:00-17:30 17:00~18:00	NECTEC meeting	NECTEC	DNWA DNSI NECTEC
		18:00-20:00 19:00~21:00	NECTEC & Chanwanich CEO (Mr. Marachai)	Siam City Hotel	DNWA DNSI DSTH Chanwanich NECTEC
5/11/09	Thur	10:00-12:00	Chan Wanich meeting (Thai QR Code) Content -Auto ID technology movement by Mr. Shibata -Thai QR Code Specification by Dr. Chaichana -Show Thai QR Code demo by Mr. Hirata -Provide Thai QR Code generating software and scanner supporting ThaiQR code by Mr. Hirata	Chan Wanich	DENSO NECTEC Chanwanich
		14:00-16:00	- DIAT Meeting	DSTH	DNWA REE
6/11/09	Fri	Whole day	-Market research for JAISA project	JAISA	Only Shibata-san
		11:00-12:00	-SATO Thailand Meeting	SATO	SATO DNWA DSTH
		14:00-15:00	-SIMAT Meeting	SIMAT	SIMAT DNWA DSTH
		16:00-17:00	-ACS meeting	ACS	ACS DNWA DSTH



DENSO
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Samutprakarn 10560,
Thailand**





2009.11.04

**DENSO
INTERNATIONAL
ASIA CO., LTD**

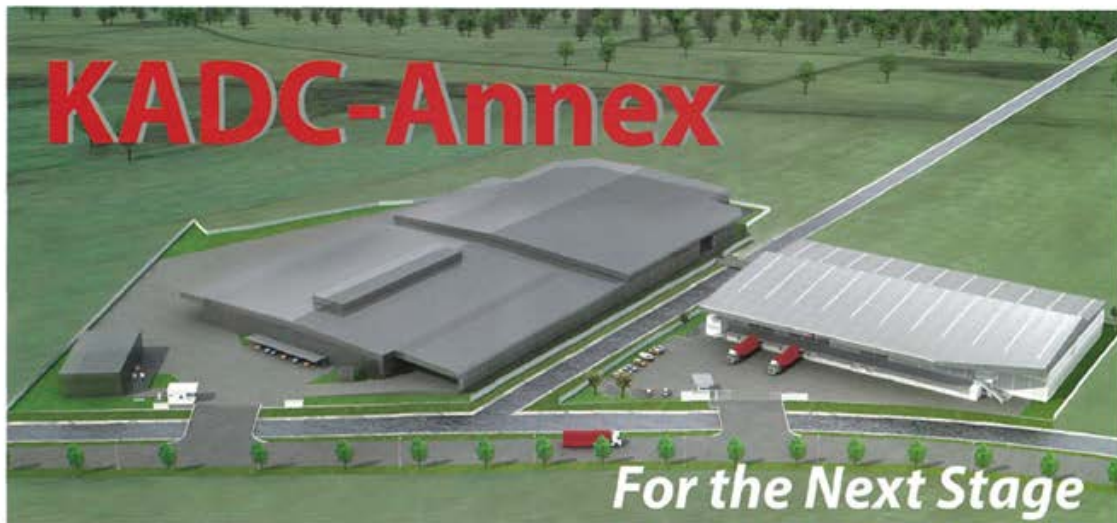


**K Line
Container Service
Thailand**

2009.11.04



**33 Moo 9, Km. 18 Bangna-Trad,
Bangchaloang Bangplee,
amutprakarn 10540, Thailand**



K Line Amata Nakorn Distribution Center (KADC) has scaled up to cater for more valuable needs of our customers by adding the 3rd warehouse, called "Annex". Annex with 6,600m2 capacity is located neighboring with the existing warehouses and connected with them by bridge to ensure a smooth operation and effective inventory management. Annex is equipped with high standard warehouse facilities such as IP-camera which enable us to monitor the inside and the outside of the warehouse through the Web on real time basis.



In addition to general warehousing services, we offer an integrated logistics service including not only customs brokerage and transportation but also other value added services such as labelling, cargo conditions check and count, sorting and packing, etc.

We are now ready to meet varied needs of customers through our A class quality operation and facilities. We would be grateful if we could support your logistics solutions.







Thai Industrial Standards Institute



2009.11.06



Rama VI Street Bangkok
10400 Thailand



Executives



Mr. Somkid Sangnin
Deputy Secretary-General



Mr. Pairoj Sanyadechakul
Secretary-General



Mr. Chaibong Kittapholchai
Deputy Secretary-General



Mrs. Pranee Egoramalpol
Advisor in Standards Development



Mrs. Chatchanee Kunakornkasem
Advisor in Conformity Assessment



Ms. Sasithorn Suntharak
Advisor in International
Standardization



Mrs. Wanwimon Lowatcharasonti
Advisor in Standardization Promotion



Mr. Nithas Sirilarpyos
Advisor in Technical Regulations

**ABSTRACT of
GUIDELINE FOR DIRECT MARKING**



JAISA
Direct Marking Working Group

1. WHAT IS DIRECT MARKING?

(1) Definition of Direct Marking

In this report, "direct marking" is defined as a generic term referring to the techniques and measures to mark a symbol directly on a product (items, parts, and their packages) instead of affixing a label or sticker to the product and to automatically identify the marked symbols.

(2) Marking Technology

Although various direct marking techniques, such as laser marking, dot peen marking, ink jet marking, sandblast marking, and thermal marking, have been developed, we will take up practically used laser marking and dot peen marking in this report.

(3) Marked Symbol

For the purpose of automatic identification, we can mark OCR (Optical Character Recognition), linear, and two-dimensional (2D) symbols on a product. Among these symbols, 2D symbol is more suitable for direct marking, so this report employs 2D symbol as a marked symbol.

(4) Needs

The advancement of information technology has brought dramatic improvements in the information system world. In the logistics industry requiring process/plant/transportation control, information system has been introduced to manage all information on manufacturing to sales consistently. This system is very helpful for manufacturers to carry out their mission to provide better and affordable products to consumers.

Additionally, considering the current situation that environmental problem and effective utilization of resources have been a focus of attention, we should establish lifecycle management system covering reuse/recycling of products as soon as possible. In order to achieve this goal, we have to develop the techniques to attach information to all products in an almost indelible manner and identify such information automatically and then construct information system to give working instructions.

(5) Technological Challenge


Since various products and materials require direct marking (See Table 1 to 4) and we have to choose a marking method from various options, such as laser, dot peen, or inkjet marking, according to the target materials, standardization of marking quality is not an easy task compared to paper labels. However, if there are many direct marking methods exclusively developed by each company, not only multi-sectional and cross-industry use but also shared use will be hampered. Therefore, we must promote standardization of direct marking.

(6) Applications

a) Production control


You can store the information on the product-related process in database under a paperless environment. In this application, the product-related data, such as line name and test data, is automatically recorded and managed as manufacturing history. Generally, the data required for production control is relatively large but marking space is small. When the marking space is small like PCB, two-dimensional symbol, which can encode large amount of data in a small space, is most suitable. As a conventional method, we have marked a symbol on a label affixed to the product. However, this method has been being replaced by direct marking, such as laser marking and silk screening, to eliminate a peeling problem and reduce manpower required to issue and affix symbol labels.

DENSO WAVE Mobile QR Project




1. Overview of DENSO WAVE

DENSO Automobile




DENSO Industrial Products (Non automobile)

FA products (robot)



Industrial robot & controller

Auto ID capture devices



DENSO WAVE

Automatic Data Capture Div.





DNWA is a company that develops, sells and services auto ID products. As a pioneer of bar code and QR Code readers, DNWA provides a total solution with the world's most advanced technologies cultivated through DENSO's car electronics.

■Sales in 2008 ¥34 billion

2. Background of QR Code and Concept

QR Code has been widely used in mobile phones in Japan. For example, it is used as an **electronic ticket** or as an effective tool to **access web sites**.

This is attributed to Japan's unique mobile systems (mobile applications using web access) developed by Japan's mobile carriers and the market needs (easy data entry, ticket-less, etc).



Our goal is to promote QR Code with focusing on **overseas markets** where **mobile QR Code has not gain popularity**, by promoting standard activities and creating good business models for QR software.

■ Mobile QR Code reading environments

- Rate of mobile phones **supporting QR Code reading** by Japan's three major mobile carriers Up to 93 models out of 99 models, or 94%, support QR Code (as of May 2009)
- Implementation rate and quantity of **built-in mobile cameras** for **overseas markets** Approx. 50% (770 million units) in 2005 and 70% (1.22 billion units) in 2008. It is expected to increase to 80% (1.43 billion units) by 2012.

3. Target Countries

- **Australia, China, Singapore** and **Korea** → 1st target is Australia
* North America is also under consideration.
- Decide to which mobile carrier, manufacturer, application provider and camera module manufacturer to work with.
- The standardization of mobile QR Code (SC31 WG6) is currently in progress. This will give us technological advantage.

The reading standard now under development will be of great help in assuring high readability of QR Code.

30



