

## QR code project Bangkok

Schedule: 2007.11.25~11.29

2007.11.24 Prague ⇒Paris/ CDG ⇒Chubu (+1)

2007.11.25 Chubu ⇒Bangkok

2007.11.26 13:30-16:00 Meeting with NECTEC

2007.11.27 10:00-12:00 Meeting with Department of Land Transportation

2007.11.28 10:00-15:00 Meeting with DITH, TTCH, TTC

2007.11.28 Bangkok ⇒Chubu (+1)

2007年11月25日~29日の日程でタイのバンコクを訪問した。タイのバンコクへはプラハで行われたJAIF(Joint Automotive Industry Forum)の会議のあと、プラハからパリ経由で25日に帰国したが、そのままバンコクへフライトした。バンコクへはQRコードの国家規格化のプロジェクトの一環でタイ担当部署のNECTECにQRコードを説明した。またQRコードをタイの車検証に採用してもらうためDLTに対してプレゼンを行った。

NECTEC; National Electronics and Computer Technology Center

DLT; Department of Land Transportation





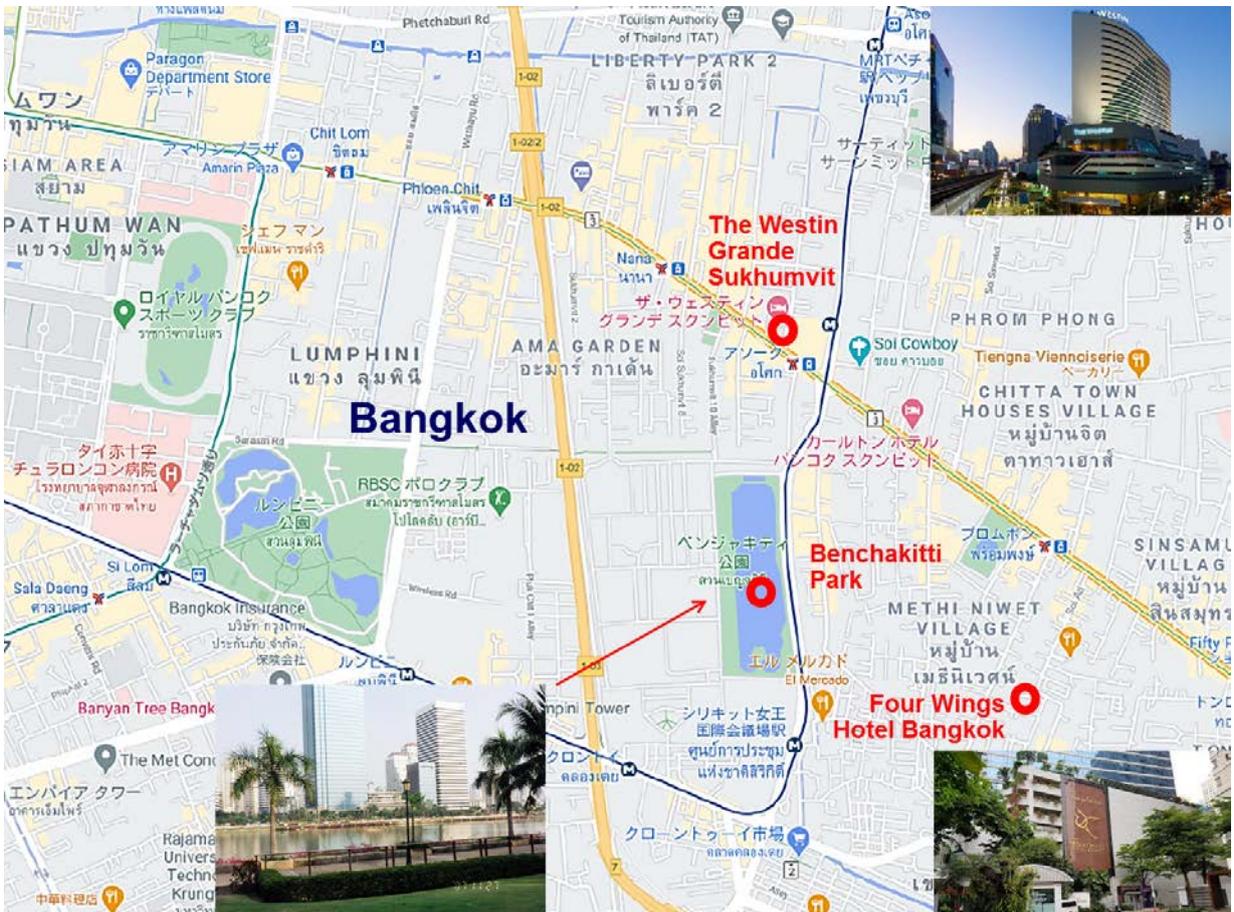
**Suvarnabhumi International Airport**

# NECTEC





Thai Department of Land Transportation



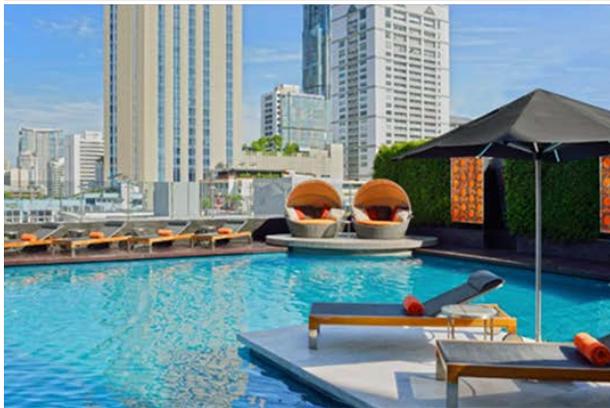


### The Westin Grande Sukhumvit





**The Westin Grande Sukhumvit**



**2007.11.26 NECTEC**

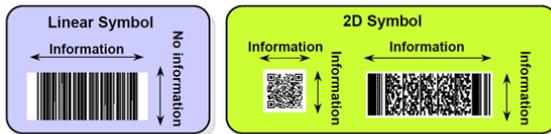
# QR Code Features

- Large Data Encoding
- Reduce Space Printing
- Multi-direction High Speed Reading
- Kanji Letter Coding
- Damage Proof



## About 2D Symbology

2D symbology can hold large amount of data by carrying information both horizontally and vertically direction.



Symbol Type	Linear Symbol	2D Symbol
Data Type	Alphanumeric	Alphanumeric, Binary
Data Capacity	Approx. 20 char.	Approx. 2,000 char.
Data Density	1	20 - 100
Data Restoration	No	Yes

## Typical 2D Symbologies

### ISO Standard 2D symbologies

<b>QR Code</b> 	<b>PDF417</b> 	<b>Data Matrix</b> 	<b>MaxiCode</b> 
<b>Veri Code</b> 	<b>Codablock</b> 	<b>Aztec Code</b> 	<b>Code 16K</b> 
<b>Code One</b> 	<b>Calula Code</b> 	<b>BP04 State Code</b> 	<b>Postnet Code</b> 

## QR Code is...

- QR Code is
- the 2D symbology developed by DENSO CORPORATION in 1994.
  - an excellent code integrating every merit of 2D symbology; high data capacity of PDF 417, reduce space printing of Data Matrix, high speed reading of MaxiCode.



2007.11.26 NECTEC



**2007.11.27**  
**Thai Department of**  
**Land Transportation**



DENSO WAVE 1

## Global Logistics Platform Using Data Carriers

Document of The 6<sup>th</sup> AFIT Plenary Conference

**DENSO WAVE INCORPORATED**  
Akira Shibata

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DENSO WAVE 2

### Presenter profile

**International member bodies**

ISO/IEC JTC1 SC31  
 ISO/IEC JTC1 SC37  
 ISO TC20 WG13  
 ISO TC104 SC4 WG2  
 ISO TC122 WG4  
 ISO TC122 WG7  
 ISO TC122/TC104 JWG  
 ISO TC204 WG4  
 ISO TC204 WG7.2

**Japan Member bodies**

ISO/IEC JTC1  
 ISO/IEC JTC1 SC31 Chairman  
 JEITA AIDC Committee Chairman  
 JEITA RFID Expert Group Chairman  
 JEITA RFID Committee  
 JAISA R&D Centre Director  
 GS1  
 GS1 GCI  
 EPC Global

**United State Member bodies**

US TAG To ISO/IEC JTC1 SC31  
 ASC MH10/SC8

**JEITA:** Japan Electronics and Information Technology Industries Association  
**JAISA:** Japan Automatic Identification Systems Association

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DENSO WAVE 3

### Business Globalization and Local Companies

#### Automotive Industry in ASEAN

Business globalization will bring a big chance to Local companies(LC).

Production is difficult within one country in ASEAN (each nation has its own expertise).

Production based on each nation's expertise can cover wide areas.

Logistics cost in Asia (20%) is more than twice that of Japan, U.S. & EU (10% max).

**Reduction of logistics cost is essential.**

T:TOYOTA, D:DENSO, A:AISIN

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DENSO WAVE 4

### Characteristics of Automotive Industry

T Company					
Dev.	Design	Mfg.	Sales	Service	Reuse/ recycle
High quality	KANBAN system	Continuing innovation	Concurrent works	Reduction of environmental loads	Education
			Technology, standard, intellectual property, etc. Zero defects, quality of products & transport, etc. Just-in-time, first-in first-out, etc. KAIZEN (Improvement) Business group & cooperation		

Intellectual property: Process standard

Significance of company standard	Process	Development	Design	Expertise
A	A	C	B	A

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**Denso Thailand**



**2007.11.26 DENSO Thailand**



2007.11.27 The Westin Grande Sukhumvit



2007.11.27 Benchakitti Park



