



Enabler of SCM - RFID and Logistics in Korea

The 6th AFIT, Oct. 22, 2007

The global language of business

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Agenda

- **Logistics in Korea**
 - Efficiency of Logistics
 - Supply Chain Innovations
- **RFID Market in Korea**
 - Market Status
 - Standardization
 - Business models & Pilot tests
 - Support center for RFID



Logistics in Korea

Efficiency of Logistics in Korea

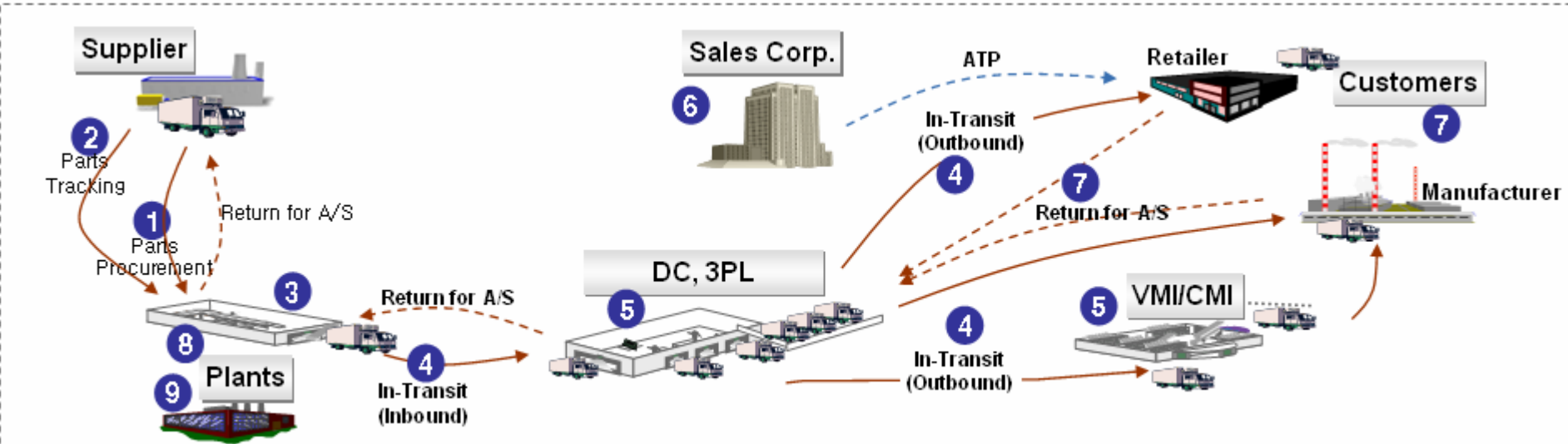
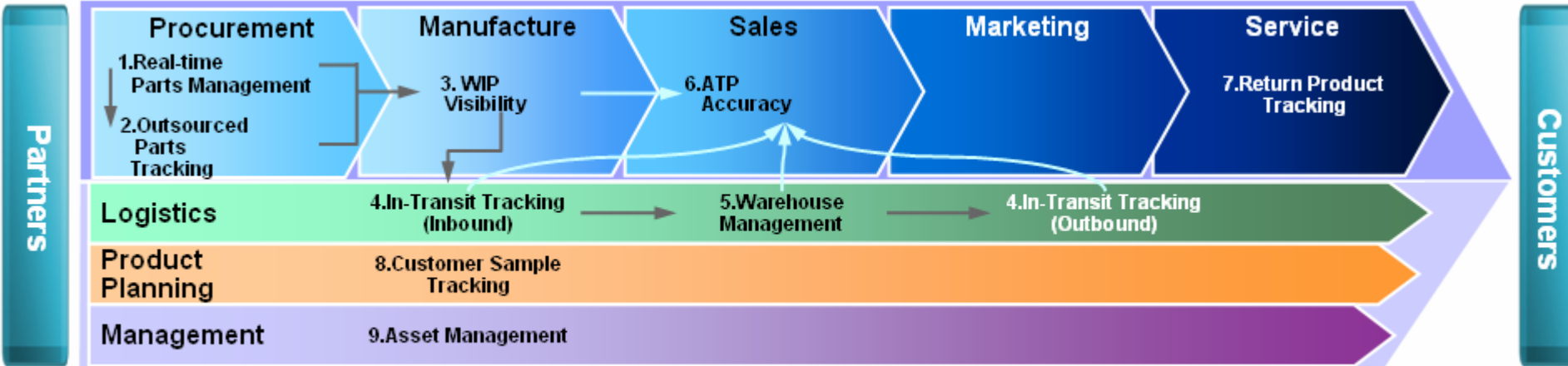
| | 1994 | 1997 | 2001 | 2003 | 2005 |
|-------------------------------------|-------|--------|--------|-------|-------|
| Logistics Cost per the sales | 14.3% | 12.9 % | 11.1 % | 9.9 % | 9.7 % |

unit : million \$

| | 2000 | 2001 | 2002 | 2003 | 2004 |
|--|------------------|------------------|------------------|------------------|-------------------------|
| National Logistics Cost (Percentage of GDP) | 77,119 (13.3) | 80,792 (13.0) | 87,032 (12.7) | 90,345 (12.5) | 92,459 (11.9) |

Logistics in Korea

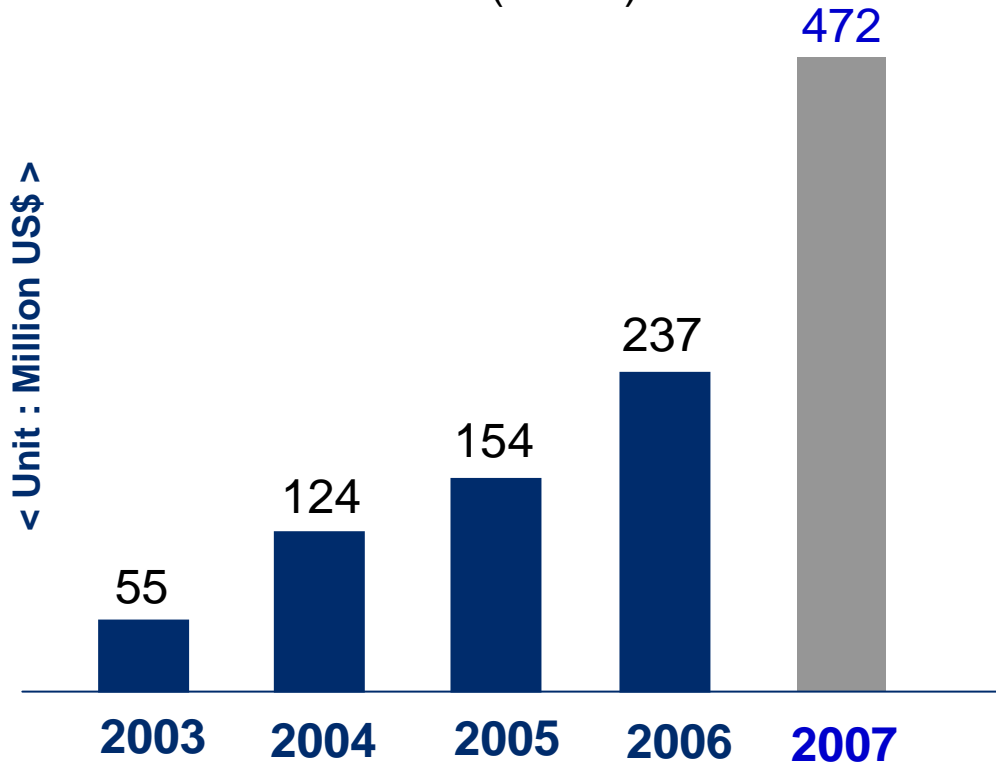
Supply Chain Innovations



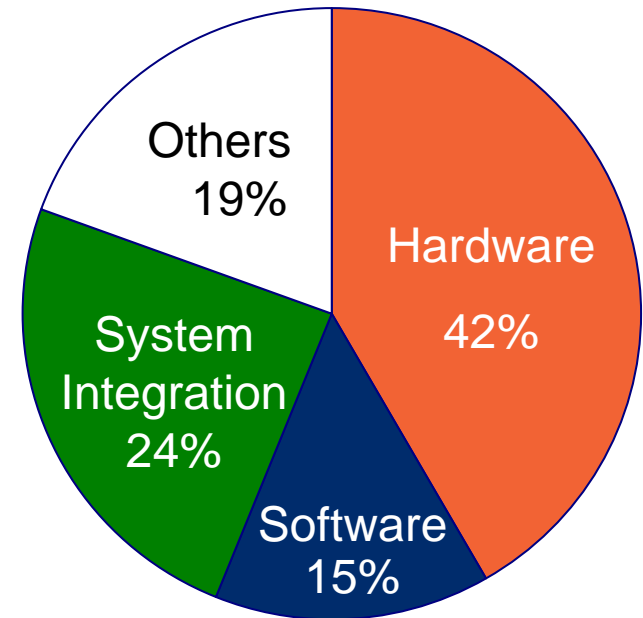
RFID Market in Korea

Market Status

Market Size (Sales)



Companies Involved



< Source : RFID Journal Korea (2007. 1~2) >

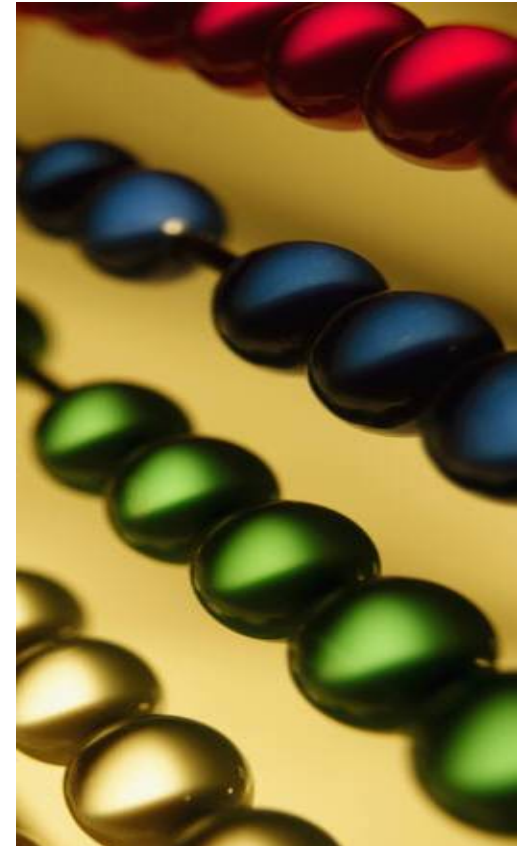
Standardization

RF Identification Frequency

In June 2004 Korean Government approved
908.5 ~ 914MHz band for RF Identification

Both FHSS and LBT are available in Korea

- LBT : 908.5 ~ 910 MHz
- FHSS : 910 ~ 914 MHz



Standardization

25 ISO standards on RFID have been adopted as Korean Standards

| Number | Topic |
|-----------------|--|
| 19762-1 | General terms relating to Automatic Identification and Data Capture |
| 19762-2 | Optically Readable Media (ORM) |
| 19762-3 | Radio frequency identification (RFID) |
| TR18001 | Application requirements profiles |
| 15961 | Data Protocol : application interface |
| 15962 | Data Protocol : data encoding rules and logical memory functions |
| 18000-1 | Reference architecture and definition of parameters to be standardized |
| 18000-2/3/4/6/7 | Parameters for air interface communications |

Standardization

| Number | Topic |
|-------------------|---|
| 18000-6 Type C | Parameters for air interface communications at 860 MHz to 960MHz (Type C; EPC C1 Gen2 Spec. based) |
| 18046 | Radio Frequency identification device performance test methods |
| 18047-2/3/4/6/7 | Test methods for air interface communications |
| 24710 | Elementary tag license plate functions for ISO/IEC 18000 air interface definition |
| 24730-1 | Application programming interface (API) |
| 24730-2 | 2.4GHz air interface protocol |
| 17363 | Freight containers |
| 17364 | Transport units |
| 17365 | Returnable transport items |
| 17366 | Product packaging |

Business Models & Pilot Tests (Led by MOCIE)

| Title | Companies Involved | Period |
|---|---------------------------|-----------------|
| Automobile Components Ocean Transportation | ECO, Hyundai Movis | '04.10 ~ '05. 4 |
| Retailing Industry Pilot | Samsung Tesco | '05. 3 ~ '05. 6 |
| Food&Beverage Traceability Pilot | CJ Systems | '05. 4 ~ '05. 6 |
| Air Transportation Pilot | KT-net, Bumhan Pantos | '05. 7 ~ '05.12 |
| Apparel Industry SCM efficiency pilot | Cheil Industries | '05. 7 ~ '05.12 |
| RFID –based Ubiquitous Electronic Logistics System | CJ GLS | '04.12 ~ '08. 1 |
| Product Life cycle Integated Solution on RFID | Dongguk Univ. | '05. 7 ~ '08. 6 |
| RFID Technology for domestic u-SCM Platform | Global ID Research Assoc. | '04.12 ~ '09.11 |
| Chip set development for UHF RFID Reader | D&S Technology | '03.12 ~ '06.11 |
| Unique Identifying Tracking System for pharmaceuticals | Gil Hospital | '06. 3 ~ '06. 5 |

Business Models & Pilot Tests (Led by MIC)

| Title | Ministry involved | Period |
|---|---|------------------|
| Supply Management System | the Office of Supply | '04. 9 ~ '05. 5 |
| ammunition Management System | the Ministry of National Defense | '04. 10 ~ '05. 4 |
| Imported Beef Tracking System | National Veterinary Research & Quarantine Service (NVRQS) | '04. 9 ~ '05. 4 |
| Track & Control System for Air Cargo | Gimpo airport | '04. 9 ~ '05. 4 |
| Pilot for Efficient Transportation of Sea Freight | the Ministry of Maritime Affairs and Fisheries | '04. 12 ~ '05. 8 |
| Contaminated Disposals management System | the Ministry of Environment | '05. 12 ~ '06. 3 |
| Weapon System (F-15) Asset | the Air Force Headquarters | '05. 6 ~ '05. 12 |
| Factory Transit and Logistics Management | the Ministry of National Unification | '05. 7 ~ '05. 12 |
| National Beef Production Tracking System | Gangwon Province | '05. 7 ~ '05. 12 |
| Knowledge based Air Cargo management | City of Incheon | '05. 8 ~ '05. 12 |
| U-Museum Service | National Temporary Museum | '05. 7 ~ '05. 12 |

Support Center for RFID

- **Mission** : To promote use of RFID and help speedy adoption of EPC by Korean enterprises across industries
- A 5-year-long project in cooperation with government & private sectors
- **Main Activities**
 - RFID Pilot Projects
 - EPCglobal Performance Test Center
 - EPCglobal Action Group
 - RFID Leaders Group & Industry Forums
 - RFID/EPC Website
 - Annual RFID/EPCglobal Conference

Business Models & Pilot Tests (Led by Support Center for RFID)



Logistics: Tracking Air Cargo to L.A. (JUL – DEC 2005)
Securing visibility of mobile handsets from Korea to US
(LG Electronics, Korean Air, KTNET, PAN Korea)



Retailing: Tracking Tagged Carts (FEB – JUN 2005)
Efficient shelf management and customer relation management
(Samsung Tesco, Retail Tech, H&T)

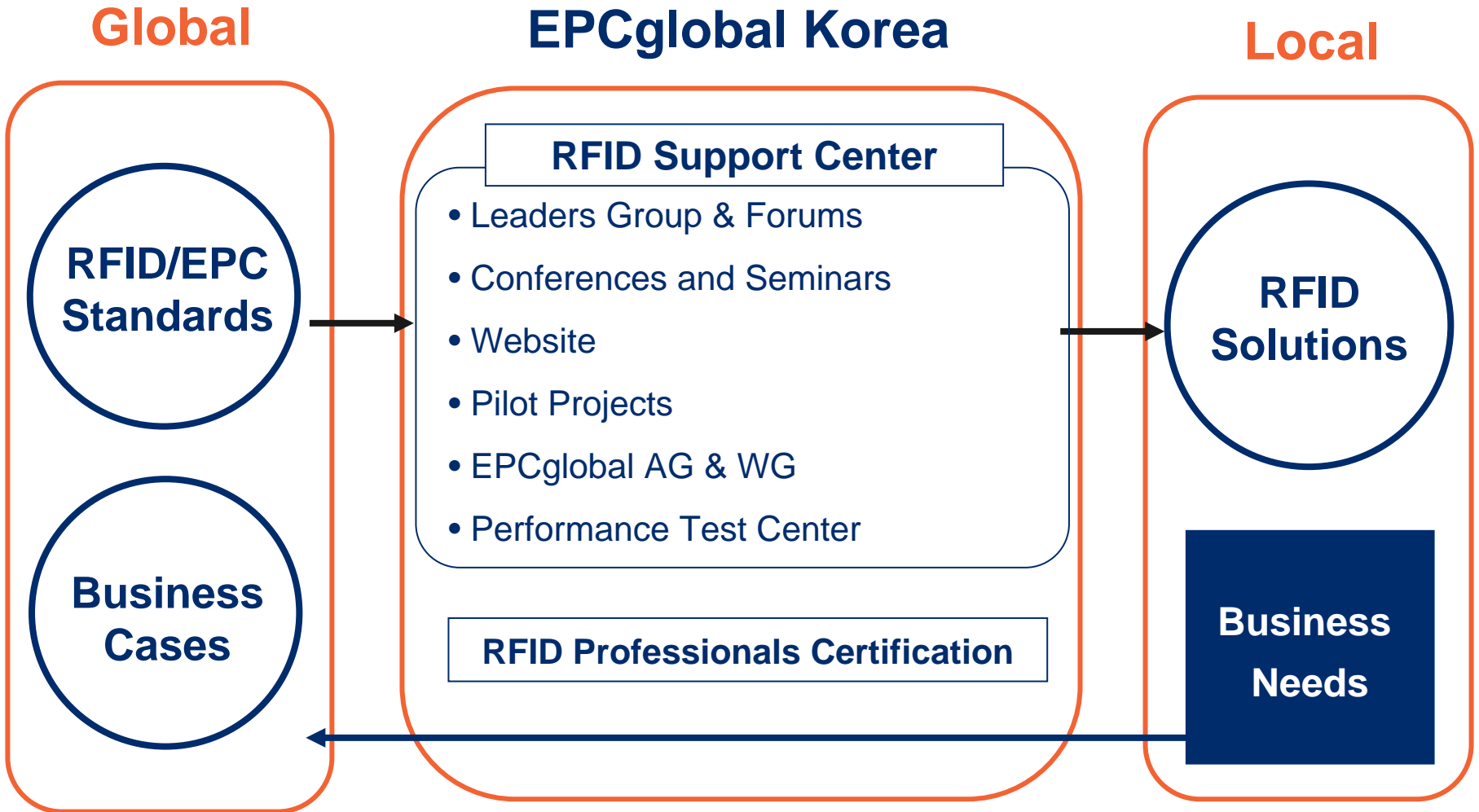


Healthcare: Tracking Tagged Medicines (JUN - NOV 2005)
Preventing counterfeit drugs and reducing medical errors
(LG CNS, Green Cross, Gachon University Gil Medical Center)



Apparel: Tracking of Clothes thru SC (JUL – DEC 2005)
Efficient inventory control and faster shipment and receiving
(Samsung SDS, Cheil Industries, VeriSign Korea)

RFID Market in Korea



THANK YOU !

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QUESTIONS?