

How China promoting RFID use in logistics



Mr. Wenfeng Wang
Senior engineer,
IT research center of CESI

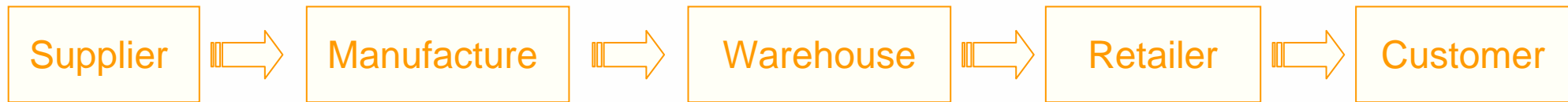
What is the logistics?

The process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.



We need a supply chain information system.

Capacity, inventory level, delivery schedule, orders, payment terms, service requests



- ❑ Decide when and what to produce, store, and move
- ❑ Rapidly communicate orders
- ❑ Track status of orders
- ❑ Check inventory availability and monitor inventory levels
- ❑ Track shipments
- ❑ Plan production based on actual demand



How to manage the supply chain

- Share information
- Web-access & e-commerce
- Database management
- CRM
- Vendor managed inventory (VMI)
- Production postponement
- Technologies
 - ✓ RFID
 - ✓ GPS

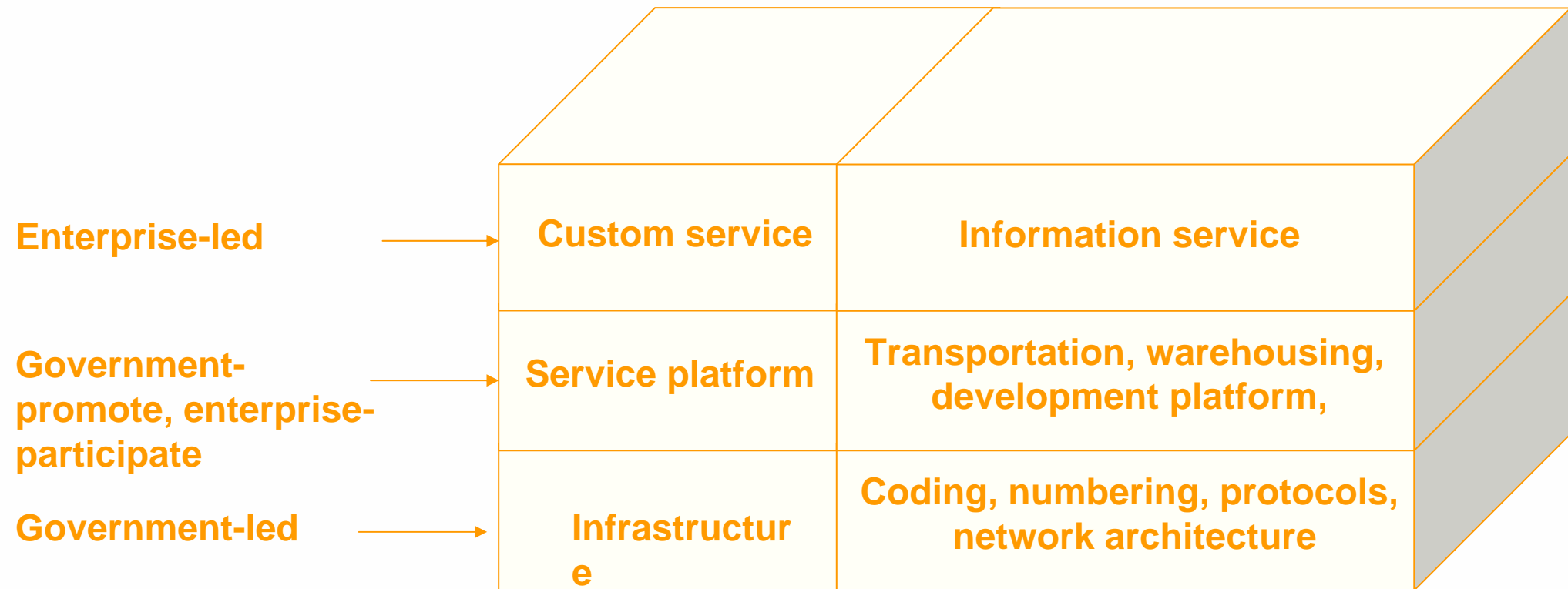


Why we choose RFID for logistics?

- Innovate ways to identify, locate and monitor goods as they travel through the supply chain of many industries.
- First Benefits
 - ✓ Increase accuracy of orders
 - ✓ Reduce inventory handling cost
 - Improve inventory handling
 - ✓ Fewer misplaced items (in warehouse)
 - ✓ Reduce losses from theft



Logistics information industry in China



- China is developing country...
 - Logistics industry is backwards from developed countries.
 - Information infrastructure is not sufficient.
 - Logistics industry and information industry will be promoted together.
 - We have to construct information infrastructure for logistics.
 - All our projects are market-led.



Efforts involved in supply chain in China

- Fixed telephone ownership rate: 28%
- Cellular phone ownership rate: 32.7%
- No. of PCs owned: 53,000,000
- Internet dissemination rate (user): 10%
- EDI dissemination rate (B2B transaction amount) :B2B(2006): 20.8 trillion RMB
- e-Signature Law of PRC



How China to promote RFID use in logistics

- **Government funding RFID R&D projects**
 - ✓ Ministry of Information Industry (MII) (RMB 60 million for industrialization)
 - ✓ Ministry of Science Technology (MOST) (RMB 200 million for research)
 - ✓ National develop and reform commission (RMB 5 million for standardization)
- **UHF frequency allocated by MII**
 - ✓ 840~845MHz
 - ✓ 920~925MHz
- **Standardization**
 - ✓ Participate ISO/IEC JTC1/SC31 meetings
 - ✓ Develop national standards/industry standards
 - ✓ Communication and cooperation among countries (CJK, ASIA, US, EU)



RFID applications in China

- **RFID pilots in government projects**
 - ✓ **Gas cylinder management in Shanghai**
 - ✓ **Parcel management in post (Shanghai)**
 - ✓ **Container management (Shanghai-Yantai)**
 - ✓ **Libraries (Jimei University library, Shenzhen city library, National library)**
 - ✓ **2007 Special Olympic game (Shanghai)**
 - ✓ **2008 Olympic game (Beijing)**



State of RFID international standards

➤ State of RFID standards

✓ ISO/IEC JTC 1/SC 31

- Air interface
- Data on tag / syntax and semantics
- Conformance test method and performance test method
- Unique identifiers (OID)
- Vocabulary

✓ ISO TC122, TC 104

✓ ITU-T

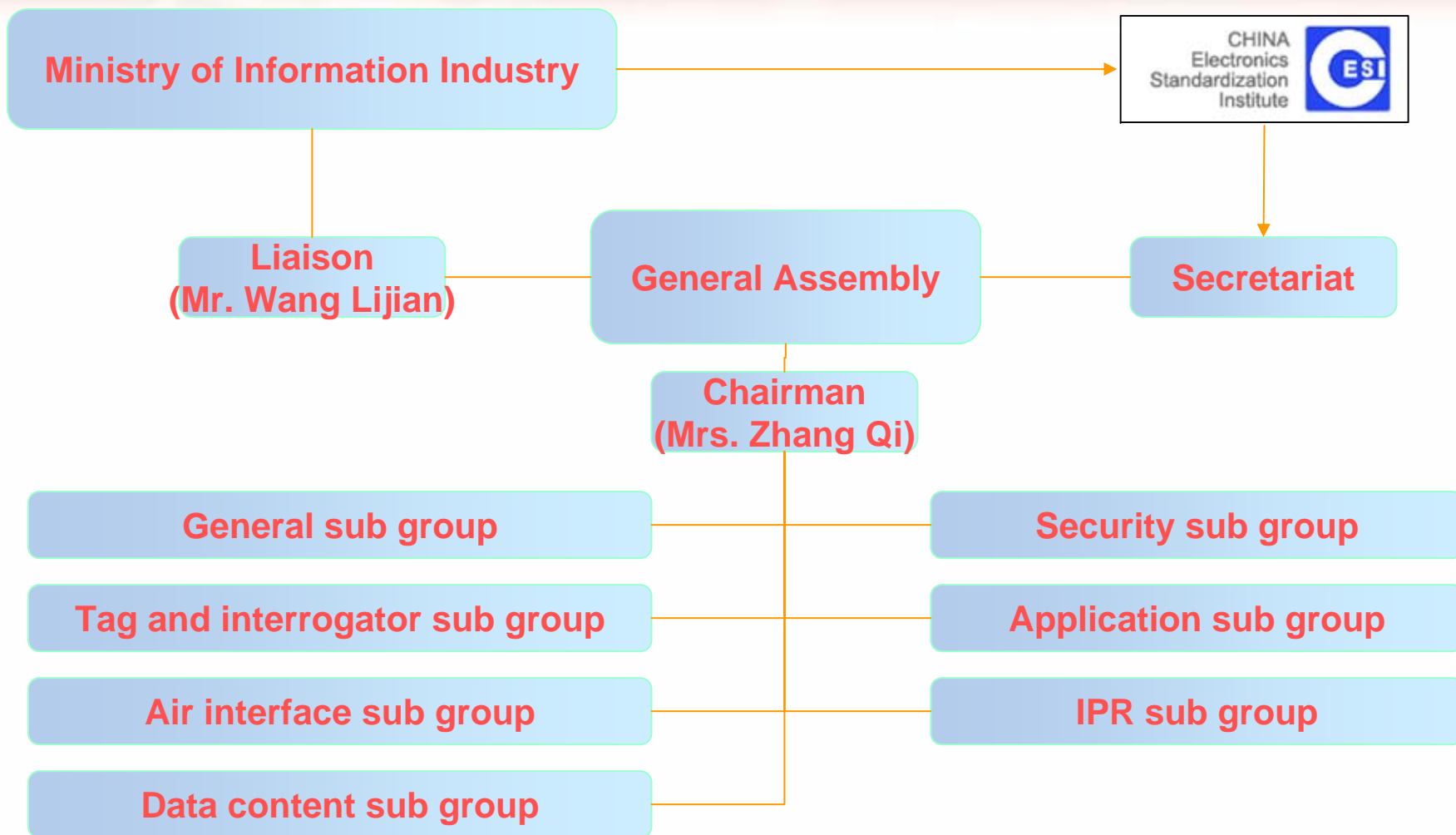
✓ ETSI, CEN

✓ EPCglobal



RFID standards working group

founded in Oct, 2005

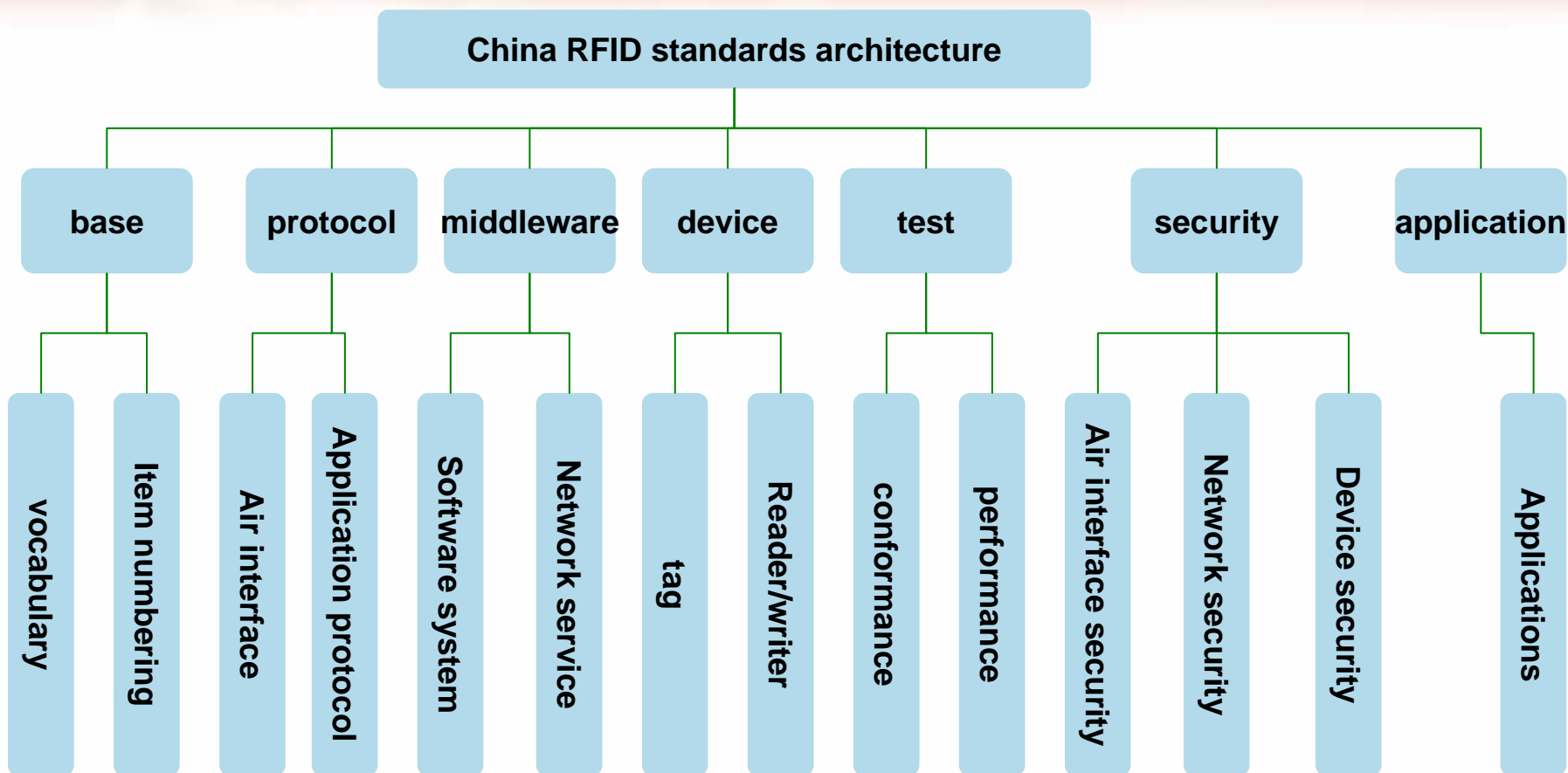




RFID standards working group members

- Until October 13th, 2007, there are 90 members.
- P members: 83
- O members: 7
- Members from: industry, institutes, university, etc.
- Including: chip, tag, label, reader, software and integration.

China RFID standards architecture





RFID standards working group

Current work items:

1. “Tag general technical specification”
2. “Reader and writer general technical specification”
3. “RFID test method for system performance”
4. “RFID test method for tag performance”
5. “RFID air interface communication parameters below 135kHz”
6. “RFID air interface communication parameters at 13.56MHz”
7. “RFID air interface communication parameters 2.45GHz”
8. “RFID air interface communication parameters 920~925MHz”



RFID standards working group (cont)

1. “RFID technology - vocabulary”
2. “RFID technology - network architecture”
3. “Information technology - unique identifiers - products and services digital identification specification”
4. “Information technology – unique identifiers - product and services domain naming specification”
5. “RFID security requirement”
6. “Radio communication security specification”
7. “Network security specification”
8. “Tag and reader/writer device security specification”



RFID standards challenges and cooperation opportunities

- **Standardization challenges and cooperation opportunities**
 - ✓ **Air interface protocols**
 - ✓ **Frequencies**
 - ✓ **Data on tag / syntax and semantics**
 - ✓ **Internet of things, RFID network system**
 - ✓ **Standards and intellectual property**
 - ✓ **Security/privacy**

THANK YOU FOR YOUR ATTENTION

wangwf@cesi.ac.cn

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