Electronic Product Code (EPC) : Revolutionising Supply Chain Efficiency

Opportunities for Pan-Pearl river Delta

EPCglobal Hong Kong & GS1 Hong Kong
Chief Executive

ANNA LIN
Agenda

- About EPCglobal Hong Kong
- What is Electronic Product Code (EPC™) / RFID
- Opportunity for Pan-Pearl River Delta
- EPC Development in Hong Kong
EPC: Revolutionising Supply Chain Efficiency Opportunities for Pan-Pearl River Delta

About EPCglobal Hong Kong

- Formed under GS1 Hong Kong (a new name of HKANA) in March 2004
- Dedicated to drive and optimize business efficiency and performance of Hong Kong enterprises through the provision of world-class value chain standards and know-how.
- EPC knowledge and information transfer
- Participate in global standards development
- EPCglobal Architecture Review Committee Asia representative
- Facilitate frequency band regulation in Hong Kong
- EPC Certification and Testing
RFID
- Existed for 50 years and getting mature
- Military use in WW II
- Limited business adoption due to high entry cost

Application in Hong Kong
- Autotoll
- Octopus
EPC: Revolutionising Supply Chain Efficiency Opportunities for Pan-Pearl River Delta

产品电子代码与“物联网”

EPC: Internet of Things
Basic Components of EPC “Internet of Things”

- Small in size, cost effective & efficient
- Via network connection
- Identify down to product prefix
- Able to connect with existing systems
- Globally used, enable cross industry collaboration
EPC (System)

= EPC (code) + RFID + Internet

all based on global interoperable standards
EPC: Revolutionising Supply Chain Efficiency Opportunities for Pan-Pearl River Delta

EPC : Supply Chain Management Solutions

- Enable Supply Chain visibility
- Demonstrate goods flow...
- Demonstrate inventory level...
- Demonstrate goods location...
- The final destination...
- Last seen time and locations...
EPC: Revolutionising Supply Chain Efficiency Opportunities for Pan-Pearl River Delta

EPC & Barcode Adoption Comparison

- EPCglobal HK
- EPC/RFID
- Pan PRD Opportunities
- EPC Dev in HK
Global Drivers

- **Wal-Mart – June 2003** – Top 300 suppliers by January 2006
- **DoD – October 2003** – Top 100 suppliers by January 2005
- **FDA – October 2003** – Suggests RFID as a weapon in battling counterfeit drugs
- **Target – February 2004** – Top suppliers by Spring 2005
- **Albertson’s – March 2004** – Top 100 suppliers by April 2005
- **Tesco (UK) – April 2004** – Top suppliers by September 2004
- **BestBuy – August 2004** – Major suppliers by January 2006; all cases and pallets by May 2007
- **Metro Group – 100 top suppliers tag by November 2004**
How can we, as suppliers’ base in Pan-Pearl River Delta, respond to global customers’ needs?
Hong Kong & Pan PRD are mutually dependent

- Rapid development in Pearl River Delta (PRD), Guangdong and the 8 provinces (Fujian, Jianxi, Huinan, Guangxi, Yunnan, Sichuan, Guizhou and Huibei) in SW China in the past decades have made significant economic progress. Together they represent 20.9% of the total territory of China.

- GDP for the 9 provinces is US$ 630 billion, accounting for about less than 40% of China’s overall GDP.

- The HKSAR together with Macau have 7.2 million population. HK alone has achieved 158.3 billion GDP in the year 2003.

- Pan PRD is an important hinterland to HK

- Some 70,000 HK owned factories employing more than 10 million workers in Guangdong, majority in PRD

- Over 80% of goods are exported via HK

- Hong Kong’s logistics infrastructure and services would support Pearl River Delta’s manufacturing base which forms the major source of HK’s cargo

- An orchestrated development of goods and information flows in the region will boost the competitiveness of the region making further inroad into the global market
EPC: Revolutionising Supply Chain Efficiency
Opportunities for Pan-Pearl River Delta

Value

End User Functionality

Proliferation Tipping Point

Growing functionality

Cost Structure

Scaling Benefits

Investment

Functionalities

Benefit

Background

EPC/RFID

Pan PRD Opportunities

EPC Dev in HK

EPC Compliance

Track & Trace

Inventory Assessment

Production Planning

Safe & Secure Commerce

Supply Chain Process Change

Tags/Readers Installation

EPC Infrastructure

Vendor Enablement

Vendor Enablement

Express Commerce Platform

Process Consultation

Compliance Driven

Benefits Driven
EPC: Revolutionising Supply Chain Efficiency Opportunities for Pan-Pearl River Delta

Accenture RFID SCM adoption report

Strength of drivers by category (rating out of 5)

<table>
<thead>
<tr>
<th>Category</th>
<th>Drivers</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finished goods inventory visibility</td>
<td>Better shipping &amp; receiving productivity</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Increased order accuracy</td>
<td>37%</td>
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<tr>
<td></td>
<td>Better returns processing</td>
<td>20%</td>
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<tr>
<td>Production visibility</td>
<td>Improved raw materials receipts accuracy</td>
<td>39%</td>
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<tr>
<td></td>
<td>Better WIP inventory mgmt</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Better receiving labor productivity</td>
<td>32%</td>
</tr>
<tr>
<td>Asset visibility</td>
<td>Better asset use through tracking of vehicles</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Reusable containers</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Visibility of other high value assets</td>
<td>11%</td>
</tr>
<tr>
<td>Safe &amp; secure supply chain</td>
<td>Improved recall management</td>
<td>39%</td>
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<tr>
<td></td>
<td>Improved lot track and trace</td>
<td>32%</td>
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<tr>
<td></td>
<td>Better expiration date management</td>
<td>25%</td>
</tr>
<tr>
<td>Supply chain planning</td>
<td>Improvements in shrink</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>Reduction in inventory &amp; working capital</td>
<td>19%</td>
</tr>
<tr>
<td></td>
<td>Improved revenue through reduction in out of stocks</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Reduced expediting costs</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Not a Benefit</td>
<td>5%</td>
</tr>
</tbody>
</table>

5: Strong Benefit
4: Strong Benefit
2: Strong Benefit
1: Not a Benefit
EPC: Revolutionising Supply Chain Efficiency
Opportunities for Pan-Pearl River Delta

Establishing a Pan-Pearl River Delta EPC network Infrastructure to enable end-to-end Supply Chain Visibility
A 2-year project funded under the Guangdong/Hong Kong Technology Collaboration Funding Scheme (TCFS)

Objectives

• Fosters collaboration and Integration with China manufacturing base Hong Kong’s logistics and information hub serving the PAN PRD region
• Lowers implementation entry barrier for both technology solution providers and industry users
• Creates EPC business reference case
• Creates EPC technology reference case
• Identifies and expands Pan PRD market requirements
• Facilitates adoption in targeted industries
EPCglobal HK is dedicated to raise the supply chain visibility for trade lanes passing through PRD to HK... so as to provide real time & accurate information to buyers, 3PLs and manufacturers.
Global & Local Track and Trace Pilots

• Key Stakeholders
  • Leading global retailers
  • Leading logistics provider
  • Leading manufacturers in garment and consumer electronics industries
Pilot Focus

- Investigate how EPCnetwork Infrastructure can enhance different supply chain & cross-border processes including the manufacturing, transportation, logistics, warehouse management, and also Outward Processing Arrangement (OPA)
- Explore how EPCnetwork Infrastructure can enhance end-to-end supply chain visibility
- Identify win-win business case for all Pan PRD pilot stakeholders by connecting their RFID systems to the EPCnetwork Infrastructure
If we work together, we can ........

- Enable end to end supply chain visibility
- Attract global buyers to invest in the region
- Reinforces consumers confidence on Pan-PRD products
- Expedites cross border customs clearance
- Powers up the competitive edge of Pan PRD
HK Development in EPC Applications
HK EPC Development – Frequency

- OFTA (Office of the Telecommunications Authority) fast tracking frequency approval on Dual Bands 865-868 MHz (aligned with EU) & 920-925MHz (aligned with US)

- Approved and proposed by OFTA in RSAC Paper 7/2004

- Frequency bands EXEMPTED by LEGCO in Apr 2005, i.e. NO application for site permits shall be required anymore!
HK EPC Development – Government Policy

- Guang Dong / Hong Kong Technology Collaboration Platform
  - EPC/RFID being one of the key focus areas
  - Reader and Tags, Information Sharing infrastructure, Industrial and Commercial applications

- Propose and Establish relevant R&D Centre
  - To determine a 5-year blueprint on supply chain and logistics enabling technology
  - EPC/RFID shall be one of the key focus area in technology enablement and commercial applications R&D
HK EPC Development – Marketing and Awareness

- Industry Facilitations
  - Annual EPCglobal HK Conference
  - EPC introduction in various seminars, conference, and industry forums
  - Over 28 Solution Partner Members joined EPCglobal Hong Kong
  - Established EPC Solution Partner Advisory Board, and formed relevant working groups to participate in various industry facilitations activities

- Knowledge Transfer and Training
  - Regular EPC Training Workshops & Study Missions
  - Undertake EPC Awareness & Training Program funded by Hong Kong Government
  - EPCglobal Website established in Mar 2005
  - Bi-monthly EPCEXpress Newsletter
  - EPCEXpress Website as EPC Standard & Technology Interaction Platform
EPCglobal Hong Kong Enabling Services

- EPC Standards & Membership Services
- Training and Knowledge Transfer
- EPC/RFID Implementation Consultancy
- EPC Network & Application Enablement
- Industry Facilitation
- EPC Certifications
Thank You!