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**EPCglobal Hong Kong Unveils RFID Cross Border Feasibility Study Findings**

**Hong Kong's *First Study* on Border Crossing  
Conducted by Hong Kong University of Science and Technology**

**New Technologies Would Significantly Reduce Crossing Time**

**Hong Kong, September 27, 2006** – EPCglobal Hong Kong, the not-for-profit standards organization dedicated to driving the adoption of Electronic Product Code™ for supply chain excellence, today announced that crossing time at the Hong Kong-Shenzhen border could be reduced by half through the use of Electronic Product Code / Radio Frequency Identification (EPC/RFID) together with a combination of selected technologies.

In a recent cross border research study conducted by the Hong Kong University of Science and Technology (HKUST), the findings showed that if a “Green Lane” concept applied with a combination of intelligent technologies, such as Global Positioning System / Geographical Information Systems (GPS/GIS), the EPC network, E-Seal and Data Mining, would make possible a safer, more secure and more efficient border crossing.

The research began by tracking a total of 9,947 trips for trucks across the border between Hong Kong and Shenzhen through the installation of GPS devices and customized GIS systems on the trucks. Researchers found the average travel time for trucks crossing the border is 55 minutes<sup>1</sup> from Hong Kong to Shenzhen, and 32 minutes<sup>2</sup> from Shenzhen to Hong Kong, with some trucks taking up to 10 hours<sup>3</sup>, resulting in a major congestion problem and burdening both the economy and the environment. The primary causes of crossing time fluctuation come from customs document processing and inspection, and that fluctuation can be very significant.

According to the study, during the period between 1999 and 2004, trade between Hong Kong and mainland China increased from HK\$1,057 billion to HK\$1,807 billion<sup>4</sup>, a significant increase of 71%. In 2005 alone, over 10 million vehicles carrying goods crossed the land border<sup>5</sup>. All these transactions placed increasing strain on the Customs Department at the land border at Man Kam To, Sha Tau Kok, and Lok Ma Chau.

<sup>1</sup> From Hong Kong to Lok Ma Chau Yellow Bus Station

<sup>2</sup> From Lok Ma Chau Yellow Bus Station to Hong Kong

<sup>3</sup> Findings from RFID Cross Border Feasibility Study

<sup>4</sup> [http://www.info.gov.hk/yearbook/1999/eng/appendices/app\\_20.htm](http://www.info.gov.hk/yearbook/1999/eng/appendices/app_20.htm);

[http://www.tid.gov.hk/english/aboutus/publications/tradestat/tradestat\\_maincontent.html](http://www.tid.gov.hk/english/aboutus/publications/tradestat/tradestat_maincontent.html)

<sup>5</sup> [http://www.td.gov.hk/FileManager/EN/Content\\_1285/table81d.pdf](http://www.td.gov.hk/FileManager/EN/Content_1285/table81d.pdf)

To maintain an efficient and secure border crossing process, the study proposed a simulation model which applied a “Green Lane” concept, a no-stop boundary-crossing between Hong Kong and Shenzhen for cargo trucks equipped with EPC/RFID technology, enabled through the EPC network and the combination of technologies described above. The simulation model was built based on the comprehensive data collected through the measurements of the existing cross border processes and was tested until it closely aligned with real conditions.

Based on the model, end-to-end information visibility could be actualized by inserting EPC/RFID checkpoints at strategic locations to extract goods movement data in designated processes or companies. These movement data could be transferred through the Hong Kong EPCnetwork Infrastructure to both Hong Kong and Shenzhen Customs. With real time data, together with historical data, the method can be used to more accurately determine which trucks to inspect, thus lowering the overall crossing timing tremendously.

“The Green Lane can much more accurately identify illegitimate trucks for inspection, thus allowing legitimate trucks to cross the border quickly. The model predicted that if EPC/RFID were used to improve the document processing by 2 minutes, the total time needed to cross the border would be reduced by more than 50%<sup>6</sup>” said **Professor Chung-Yee Lee**, Head and Chair Professor of the Industrial Engineering and Logistics Management Department, Hong Kong University of Science & Technology, explaining the study findings at a press briefing today. “Based on an estimate of about 10,000 trucks passing through the border with an average value of HK\$1 million<sup>7</sup>, even a modest decrease in the inspect rate for legitimate trucks by 2% would yield inventory savings of HK\$140 million. And the solution that we proposed can actually do much more than that if it is successfully implemented, especially in attracting more business to Hong Kong.”

The application of this combination of technologies would lead to the enhancement of the overall operation of the manufacturing companies based in the Pan Pearl River Delta (PPRD). Better inventory control would be expected, according to the simulation model, since there would be cost savings when the expected value as well as the variance of crossing time is reduced. Better transportation planning becomes possible with a reduction in the variance of border crossing time and the facilitation of just-in-time manufacturing would be enhanced if the lead time of the raw materials became nearly deterministic.

“We are excited to pioneer the underlying technologies such as the Hong Kong EPCnetwork which make the “Green Lane” concept possible.” said **Ms. Anna Lin**, Chief Executive of GS1 Hong Kong and EPCglobal Hong Kong. “EPC / RFID is able to provide critical information on customer demand in real time. The timely logistical data will lead to change in processes, facilitating decision-making. Information visibility is key for Hong Kong to stay competitive in the global market place, upholding Hong Kong’s leading position as the regional information and logistics hub. We will proactively explore the opportunities that RFID and a global EPC network would enable, driving further technological innovations and revealing the value propositions for different sectors.”

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<sup>6</sup> Findings from RFID Cross Border Feasibility Study

<sup>7</sup> Figures from Government study referenced in RFID Cross Border Feasibility Study



The study is an integral part of the Hong Kong EPCnetwork project, funded by the HKSAR Government's Innovation Technology Commission<sup>8</sup> in April 2005. The objective of this government project is to build an EPC-standard-based RFID network, which will create end-to-end supply chain information visibility.

#### **About EPCglobal Hong Kong**

EPCglobal Hong Kong, formed under the auspices of GS1 Hong Kong, is a not-for-profit organization dedicated to establish and support the EPCnetwork™ as the global standard for real-time, automatic identification of information in the supply chain of any company, anywhere in the world. EPCglobal Hong Kong as the local Member Organization of EPCglobal Inc. is the only organization authorized to issue EPC Manager Numbers in Hong Kong. Supported by the Hong Kong SAR Government's Innovation and Technology Commission (ITC) under the Guangdong-Hong Kong Technology Cooperation Funding Scheme, EPCglobal Hong Kong has launched an initiative to create end-to-end supply chain visibility for enterprises located in Hong Kong and the Pan Pearl River Delta by building an EPCnetwork infrastructure based on the EPCnetwork standard. For more information about EPCglobal Hong Kong, please visit: [www.epcglobal.org.hk](http://www.epcglobal.org.hk)

#### **About GS1 Hong Kong**

Founded in 1989, GS1 Hong Kong (formerly known as The Hong Kong Article Numbering Association) is a not-for-profit industry support organization. It is committed to enhancing Hong Kong enterprises' competitiveness through the provision of global supply chain standards, best practices and enabling technologies. As GS1's local chapter, GS1 Hong Kong is the only organization that is authorized to issue and administer GS1 identification numbers in Hong Kong. Standards and solutions offered include bar coding services, B2B e-commerce services, knowledge transfer training programs, Global Data Synchronization (GDS) and Electronic Product Code™ / Radio Frequency Identification (EPC/RFID). The GS1 community has over one million corporate members spanning 145 countries and economies and more than 20 industries around the world. For more information about GS1 Hong Kong, please visit: [www.gs1hk.org](http://www.gs1hk.org)

#### **About HKUST**

Since its official opening in October 1991, the Hong Kong University of Science and Technology has established itself as an intellectual powerhouse, energizing the community's transformation into a knowledge-based society, and securing a place on the academic world map in record-breaking time. An innovator in research and teaching, HKUST is the only science and technology research university in Hong Kong, and the only one to offer an all-PhD faculty. Its groundbreaking work in science, engineering, business, humanities and social science is successfully pushing back the boundaries of the information age. Such advances are assisted by the University's top-class facilities.

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<sup>8</sup> Any opinions, findings, conclusions or recommendations expressed in this material / event (or by members of the project team) do not reflect the views of the Government of the Hong Kong Special Administrative Region, the Innovation and Technology Commission or the assessment panel of the Guangdong-Hong Kong Technology Cooperation Funding Scheme of the Innovation and Technology Fund