

KHL Pallet Leasing & Tracking System based on GS1 EPC Gen 2 RFID & EPCIS Solution

About the Company

Kim Hiap Lee (KHL), a small and medium enterprise (SME) and subsidiary of LHT Holdings Limited, rents wooden pallets to a wide range of distributor companies who use them to transport cartons of goods and even circus acts requiring solid ground to build tents. The SME employs eight staff and owns 450,000 to 500,000 pallets.

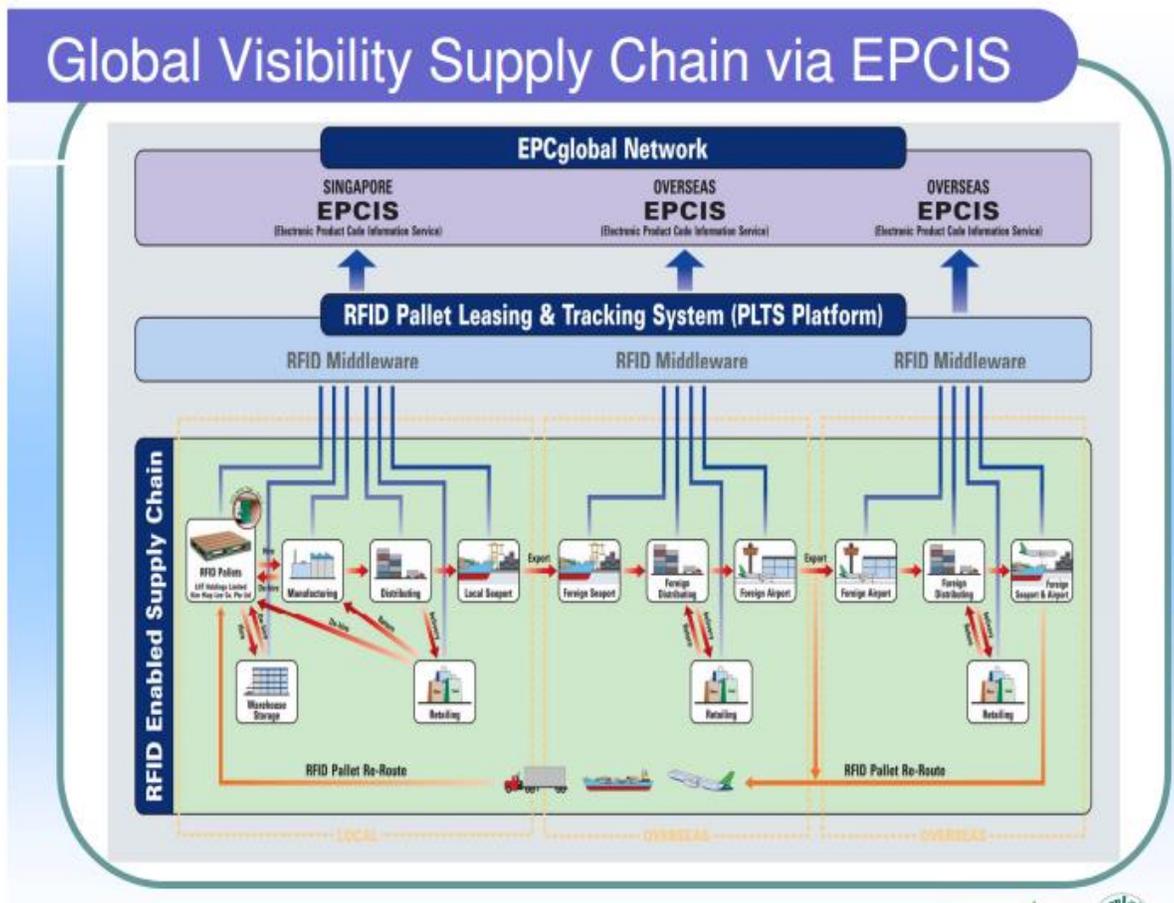
LHT Holdings Limited is a publicly listed company that has been in the timber industry for more than 30 years. Established in 1977, LHT has grown to be a leader in the industry with an annual turnover of more than S\$40,000,000 and is also one of the largest manufacturing company producing high quality wooden pallets, boxes and crates in Singapore. Sited on a 63,568sq.m land, LHT has staff strength of 180 whom are involved in the areas of administration, manufacturing and warehousing.

<u>Problems</u>	<u>Solution</u>
<p>One of KHL's biggest problems was in tracking the constant moving of its pallets that were rented to hundreds of customers both locally & overseas.</p> <p>Due to the complexity of the movement of its pallets, KHL faced issues with the inaccuracy of tracking records and accounting for the pallets assets which often leads to disputes with customers.</p>	<p>In January 2009, together with Singapore Institute of Manufacturing Technology (SIMTech), LHT launched a project for its subsidiary Kim Hiap Lee (KHL), titled "KHL Pallet Leasing & Tracking System based on EPC Gen 2 RFID & EPCIS". The project took 15 months to complete.</p> <p>The end goal of the implementation was to minimising lost pallets, avoiding billing discrepancy and reducing manpower. LHT needed a system within KHL that would enable fast & reliable counting & tracking that could ensure the accountability of its pallets. This system would also greatly assist in resolving pallet-related disputes with customers.</p>

How it works

A technology-enabled innovation business model was implemented, with the introduction of an RFID-enabled Pallet Leasing and Tracking System based on EPCIS & Gen 2 RFID. Each pallet is equipped with a reinforced RFID tag and by capturing the data using giant gantries at the KHL main office, KHL distribution centres can automatically count the number of pallets carried in and out of its warehouse. Customers would also be able to log in and out of a web portal to track the order of their pallets.

In the process of uniquely identifying each individual pallet in its supply chain, GS1 Identification Keys, Serial Shipping Contain Code (SSCC) and Global Returnable Asset Identifiers (GRAI) were used.



About the EPCIS Standards System

Electronic Product Code Information Service (EPCIS) is a GS1 Standard that enables trading partners to share information about the physical movement and status of products as they travel throughout the supply chain – from business to business and ultimately to consumers. It helps answer the “what, where, when and why” questions to meet consumer and regulatory demands for accurate and detailed product information.

Productivity Gains

With the successful implementation of the RFID Pallet Tracking System, KHL witnessed significant cost savings – 35% reduction of manpower in managing the pallets, resulting in S\$52.5k of savings per year. In addition, KHL also had a gain of S\$24k in reduced time spent in tracking its pallets. The total estimated savings for its customers also amounted to S\$375k.

There were also much benefits and improvements in the KHL supply chain process. They are now able to provide accurate tracking information, increasing in leasing volume sales by 20%; decrease pallets lost rate; 10% increase in leasing revenue through accurate and timely billing; online access for customers to check their hiring and de-hiring pallet status; and elimination of discrepancy when invoicing.

Outcome

Now equipped with the ability to scale-up, adding value to all customers and huge savings in infrastructure costs, KHL will be looking into expanding its pallet leasing into more of Asia by leveraging on the EPCIS global network. KHL will also be looking to bring the expertise to build and implement RFID into pallet tracking to overseas counterparts to automate their existing processes.