How did TCM get into the RFID business?

It all began while trying to find a solution of tracking 4,000 personal computers for an education provider company I was working for back in 2002. Back then, we provided personal computers on rental basis to our collaborative partners. New personal computers were assigned to old contracts, instead of going out to new contracts signed.

Using RFID, we were able to smooth out back end operational challenges – eg: assigning personal computers, tracking their lifespan and replacement. We were further able to measure the efficiency of our technicians' work processes, from dispatch to work completion. To get a better understanding of RFID, I signed up for a five day course conducted by SMA. That course provided me with an insight into the technical capabilities of RFID.

Would you like to comment on the maturity of the RFID market in Southeast Asia?

RFID technology has been around since WWII, being associated with aircraft authentication so that Allied forces can identify their own air-crafts, thus avoiding having to gun them down. In more recent times, we have seen this technology adoption in our MRT and ERP systems, for example. And in the manufacturing industry, RFID is used in wafer plants.

Today, RFID technology is being used in supply chains to manage inventory, track assets and improve staff efficiency. Many companies are still at this early adoption stage. TCM is not just a system integrator for RFID, but a real-time communications specialist, understanding the vertical use of RFID, and providing real-time solutions to management.

What is the market potential in Southeast Asia?

According to IDTechEx1*, in 2007 it expects that 1.71 billion tags will be sold. The total RFID market value (including all hardware, systems, integration etc) across all countries will be US$4.96 billion. By far the largest segment is RFID cards. For those not involved in that sector, the 2007 market value for non-card RFID (eg: RFID labels, fobs, tickets etc) is estimated to be US$1.97 billion.

Keeping Track Of RFID

TCM RFiD, a Singapore based RFID system integrator, made the news recently when it developed an RFID based inventory tracking solution for Mitsubishi Electric Asia. *Michael Oh*, Managing Director, TCM RFiD Pte Ltd, shares with *Goh Tz'en Long* his views on RFID industry trends and adoption.

Michael Oh leads TCM RFID with more than 15 years of senior management experience in the IT and service industry, including having served as director for both International and local MNCs. His experience covers areas of technology change management, electronics document management systems (EDMS), e-learning, manufacturing & distribution and innovation & development. He holds three patents in the area of RFID Applied Sciences. Michael is a member of the Singapore RFID Alliance. He has served as Council Member for CIM-UK Singapore, Mission Leader to India with SMA. Michael holds a Bachelors degree in International Studies from the La Trobe University, Bendigo.

Excluding cards, 58.4 percent of the market in 2007 will be in the US and 33 percent in Europe. Consequently, although China, for the first time, dominates the total RFID business – virtually without exporting – the USA dominates everything beyond the card part. The market will rise to US$27.88 billion in 2017. This includes many new markets that are being created, such as the market for Real Time Locating Systems using active RFID, which will itself be more than US$6 billion in 2017.

**IDTechEx is a knowledge-based consultancy company providing research and analysis on RFID, printed and organic electronics and smart packaging.*

The Intelli-shelf provides real time inventory status.

The logistics industry appears to have embraced RFID. How about other industries?

RFID is fast moving into the healthcare sector. In the United States, there are statistics that report on how patients in hospitals die because they were given the wrong medication – either from type or dosage. Making the situation worse is the easy availability of counterfeit drugs in the market.

RFID can track when the patient was last served and by whom. The nurse attending can ascertain that the right patient receives the correct medication. The movement of patients and visitors too can be tracked easily. This is especially important in the event of an epidemic like SARS and Bird Flu.

Do you think certification of RFID professionals will speed up growth of the industry?

Any programme dedicated to train RFID professionals is definitely good for the layman who wants to know more about the technology. However, most courses available in the market today provide a mere helicopter view and is insufficient. They do not show how RFID can be adopted to the work environment, bridging gaps in the businesses by using RFID as a solution. To speed up the growth for RFID professionals, schools should offer RFID as a module in the appropriate course curriculum.

What kind of training is still lacking?

Training in RFID should include an appreciation of applying RFID as a solution to business challenges. This is still a new application of RFID. TCM is one of the innovators in this aspect. Providing real-time communication to solve management challenges in not just logistics management, but enhancing management critical decision making while 'on-the-move'.

What are the most promising areas of development for RFID?

Machine-to-machine capability. With this development, reader/antenna distance to RFID tag will no longer be restricted by distance and/or by the lifespan of the battery for tags that are currently available in the marketplace. The lifespan of most batteries is short, ranging from less than two weeks if a tag is beeped every second, to less than two years if beeped every minute.

Do you think there is a need for an industry association for RFID vendors, system integrators and professionals in Singapore?

Such an association will be good for the sharing of ideas and best practices. More importantly, this association can recommend and perhaps even set standards for some form of limited legislation – eg: specifying the 'frequency' range that can be used.

What do you think is lacking in the RFID industry and what is needed to speed up progress and adoption of the technology?

There are insufficient skilled technicians and professionals today. To speed up the progress, schools should run RFID classes and provide formalised training in the subject. There should be more sharing sessions between management and endusers and from endusers to endusers. To speed up adoption, the government should continue to give grants to encourage companies to embrace RFID and minimise risks of its undertaking. Just as RFID is now used in ERP in transportation and more recently in the new Singapore passport, perhaps the best way to speed up adoption is to mandate RFID to be used in certain industries.

Would you like to share about other major projects for TCM-RFID that are in the pipeline?

A major Japanese FMCG corporation has awarded an RFID solution project to TCM with an estimated value of S$5 million. TCM is tasked to use RFID to provide real-time solutions to enhance management's critical decision making while 'on-the-move'. Decisions such as to stop production run due to manufacturing defect, or to stop the production of a line to focus on the production of another line, or even clients' satisfaction tracking can now be made by management quickly. The solution is TCM Real Time Enterprise (RTE).

Another project for TCM is in the healthcare industry. We have introduced our patented Intelli-Trolley to a local hospital. This allows the nursing staff to know the current stock levels on the trolley, and the user can get real time information on the items in the shelf level even as the shelf itself moves on a trolley.

Intelli-Trolley