Institute of Industrial Engineers - Long Island Chapter #86

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PRESIDENT'S MESSAGE

My latest work endeavor is to improve my foreign language skills and improve inter country communication by speaking less English. It sounds like an oxymoron --I'll explain. It's been a challenge to run a project across international borders with two different primary languages. After some frustrating encounters, I decided to look at it from the opposite point of view. Perhaps I should show some compassion by communicating using my high school and Berlitz foreign language education wherever possible. I figured, if people were taking a long to time to respond to my questions, maybe if I wrote it in their language they would answer more readily. I also realized that I could reduce the colloquialisms in my English communication patterns to reduce confusion and save time. Stick to the vocabulary that is likely to be taught in English-as-2nd-language class. Example: "How was your break?" is the colloquialism for "How was your vacation?", but that is not obvious from a literal translation. This is my way to build relationships to improve the level of cooperation. I won't lie - it's scary. But if the expectation is, "when in the U.S.A., speak English" - when we go abroad, are we meeting the same challenge?

Chapter 86, President
Carolyn Chen

CHAPTER ELECTION

Included in this issue is the 2007 - 2008 Long Island Chapter Election Ballot and Meetings / Tours Survey. Please show your support by returning it promptly.

MEMBERSHIP

Current Active Membership = 65

To become a member of IIE call 1-800-494-0460 or log onto to www.iienet.org & click on Join IIE & then on IIE Professional Members

CAREER OPPORTUNITY

Industrial Engineer
Research, develop and create improvements, which enhance productivity, cost, product quality and customer service of the **Estee Lauder Companies.**

- Researches, recommends and implements improved productivity procedures, processesor systems to improve labor utilization in both manufacturing and distribution.
- Develops Production and Distribution layouts, determines manpower requirements, conducts capacity analysis and cost justifications.
- Participates as a member of a project team assigned to meet specific objectives.
- Works closely with Industrial Engineers to ensure consistent methods are used in developing and monitoring productivity and that efficient procedures are used.
- Initiates cost reductions and cost avoidance by investigating and recommending cost reducing manufacturing/distribution capital equipment or systems.
- Performs other duties as assigned and required.

Qualifications:
- B.S. Industrial Engineering
- One to two years experience in Industrial Engineering, Production or Distribution.
- PC expertise (Office, Simulation, other databases)
- Position requires travel to Estee Lauder locations
- Excellent interpersonal and communication skills required
- 2 Industrial Engineer positions available, one Melville, Long Island and the other in Oakland, New Jersey. When you apply, please indicate which location you would be interested in.

Contact Information:
Attn: HR Manager - Keystone
Melville, NY 11747
EOE/M/F/D/V
Contact: Ami Khahera
Email: akhahera@estee.com

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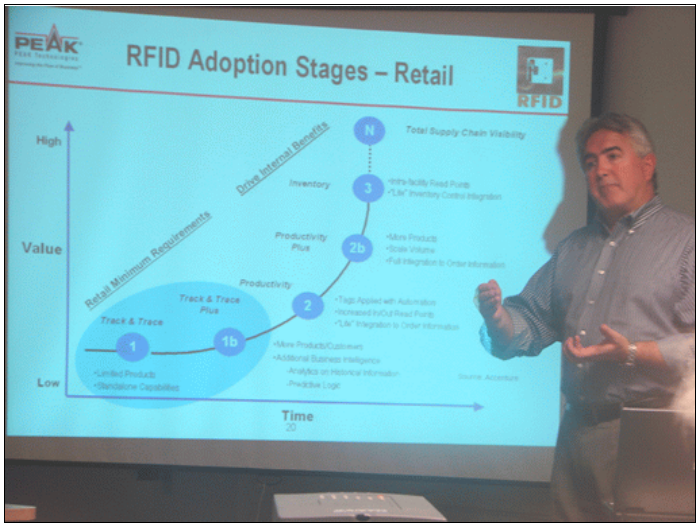
Review of the February Meeting
Radio Frequency Identification (RFID)

By: Carolyn Chen

The presenter for the February meeting was Kevin Franz, Director, Strategic Alliances of PEAK Technologies. The topic was RFID, Radio Frequency Identification. This article will describe the basics of RFID, typical applications, and the necessary equipment.

An RFID System has four basic components: Tags, Antenna, Reader and Host Computer. A tag is an electronic device with an



integrated antenna. Data is transferred between the tag and the antenna via radio frequency. The tag usually is attached to specific items. This allows for portable memory. Tag types can be active or passive. The Antenna receives and transmits the electromagnetic waves (wireless data transfer). A reader communicates with the tag via the antenna. The reader receives commands from the application software residing on the computer, interprets the radio waves into digital information, and provides power supply for passive tags. The Host Computer reads/writes data from/to the tags through the reader. The computer stores and evaluates the tag data. From there, it can link the transceiver to other applications such as ERP (Enterprise Resource Planning) systems.

The tag is given an EPC, Electronic Product Code. This is a globally unique identifier or a "license plate" that can identify a specific instance of a product down to the pallet, case, or item and link it back to more detailed information from the Supply Chain. This section will describe the four parts of the EPC and their purpose. (1) Header - specifies the EPC version (2) EPC Manager - specifies the enterprise responsible for maintaining the code (3) Object Class - stock keeping unit (4) Serial Number - unique identifier. An EPC is not a replacement for bar coding. Bar coding typically provides details about the product, and EPC can link back to the details about where the product was built.

The most recent EPC specification is ECPglobal Class 1 Gen 2. This EPC C1G2 protocol is a UHF specification that is designed for worldwide deployment. It leverages and improves upon the best features of preceding UHF specifications, and anticipates a range of future applications. Compared to the previous protocol, the read and write speed is faster, security is more robust, information capacity is increased and EPC C1G2 anticipates Class 2 & 3 systems.

The requirement for a Passive or Active tag depends on the application. Passive tags are smaller, less expensive, and the shelf life is almost unlimited. Passive tags are good for applications requiring fast simultaneous reads, when the tag is not in the line of sight, no human intervention is required, and it is not dependent on tag orientation. The read range is shorter (3 to 10 feet) and passive tags require higher power from the reader. Examples of passive tag applications are animal tagging, inventory control, access cards or car immobilizers. Active tags are best used on high asset items. They have an on-board transmitter thus less power is required from the reader. The read range is longer (~ 100 feet) and active tags have a finite shelf life. EZPasses are active tags. They send a signal saying "I'm here".

Passive tags use low frequency (125 - 134KHz) for applications with low read speed and small amounts of data. Generally, as the frequency increases, read speed and the amount of data read also increases. Tags costs go up, so they become practical as the value of the goods increase.

Tags can be created at the point of use. Tags have a blank circuit inside of them. If you peeled apart some labels, you would see metal foil in a pattern known as "alien squiggle". A tag printer has an encoder to create a smart label. A reader verifies that the "alien squiggle" has readable coding. Then the printer adds barcode and text. A common "work around" issue is that people have been known to damage the alien squiggle circuit when they tear it off the printer then roughly apply the label.

As tagged product progresses through a flow, Antennas or Antenna arrays send or receive data. They can be set up as mobile or fixed terminals. Examples of fixed terminals are portals, as you would find in a library or store entrance. It can be placed on a stretch wrapper near the point of shipping. Examples of mobile devices are hand held readers, or placing on a forklift so the data is automatically collected during the process flow. As data is decoded, information is sent via cables or wireless LAN to a host PC.

The markets where RFID is gaining a foothold are Retailing, Pharmaceuticals and the Department of Defense (DoD). Wal-Mart has been the main retailing driver for RFID. Quantifiable benefits are a 30% reduction of "out-of-stock" events on products that sell more than 0.1 and 15 units per day. Information is transmitted within 30 minutes after a transaction event: a supplier knows when shipments are received at Wal-Mart's distribution centers and Store warehouses, when product gets onto the sales floor, and when the carton is disposed. In pharmaceuticals, RFID is viewed as a tool to improve patient safety (expiration, counterfeiting) , supply chain safety and security (counterfeiting, diversions), and reverse logistics (inventory, recalls). At the same time, pharma markets must balance issues of operating costs, efficiency and decreasing margins. The DoD instituted an RFID mandate commencing in 2006. The mandate specifies which manufacturers and suppliers, which classes of supply will require RFID tags on cases and palletized unit loads, and which shipment locations require RFID implementation.

The second half of the program was devoted to Peak Technologies, a systems integrator and provider of automatic identification systems, data collection systems, enterprise mobility solutions and ongoing service and support. Peak Technologies is an SAP partner. Their integrations services incorporate Enterprise Wireless, RFID, SAP Practice, Print & Data Collection Solutions, Consumables and Service & Support.

PEAK Wireless services include RF/RFID Site Surveys, Wireless security audits, system installation, network infrastructure services, mobile device management remote diagnostics, pilot & integration/test Services, wireless help desk, and Go Live Support. PEAK holds key vendor certifications including Cisco, Wavelink, Symbol MSP, Intermec and more.

Their RFID Lab Testing Services can provide design validation and verification. Services include RFID packaging composition / signal propagation testing, tag placement & orientation optimization, read range

(Continued on Page 4)

Next IIE Meeting / *Tour* - Wednesday, May 24th, 2007 at 6:30pm

Topic: ***TOUR OF*** ESTĒE LAUDER ***in Melville, NY***

Reservations Required (reserve early - space is limited)

RSVP by May 9th, 2007 (see page 1 for details)

(Continued from page3)
validation & antenna selection, and portal & product-conveyor performance testing. The lab also tests multi-platform hardware & tag testing, printer applicator RFID testing, and provides detailed test analysis.

The print and data collection solutions products include barcode labeling software, barcode scanners and mobile computers. PEAK offers Data collection software solutions for application design tools and warehouse management. There are several Enterprise Print Solutions representing thermal, mobile, RFID, line and laser technologies. PEAK carries applicators / printer applicators and printer consumables and supplies such as labels, tags, ribbons and laser toner supplies. PEAK has broad application experience and can aid clients with a variety of requirements such as compliance, shelf, harsh environment and warehouse labeling. Their risk management programs for printhead protection, sample and testing help clients maximize uptime.

RFID is a means of gathering and transmitting information while reducing human intervention and travel breaks in the process flow. Suppliers can leverage stocking and logistics information to reduce stock-outs. Pharma markets can leverage technology to improve visibility and traceability and reduce counterfeiting. PEAK Technologies is an SAP Partner and a single source Product and Solutions provider for RFID technology.

Kevin P. Franz contact information is as follows:
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Locally you can contact Lou Mangieri, Senior Account Mgr., Phone : 516-466-1938, E-mail: Lou.Mangieri@peaktech.com

To learn more about Peak Technologies, visit their website at www.peaktech.com. If you would like a copy of Kevin's presentation (58 page - pdf file) contact Tom Fiorella at tfior9651@msn.com.

May, 2007 Newsletter

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