

Auto-ID Lab Forms Packaging SIG

The special interest group will develop tools to help companies figure out the best way to tag products and do research on antenna designs for hard-to-tag items.

Feb. 6, 2004—The Auto-ID Lab at Massachusetts of Technology (MIT) has formed the Packaging and RFID (radio frequency identification) Special Interest Group (SIG)—a consortium of packaging companies, manufacturers and technology vendors—to study the integration of RFID technologies and packaging materials. The group, which holds its first meeting on March 4 on MIT's campus in Cambridge, Mass., will work with the Auto-ID Lab to develop tools to help companies figure out the best way to tag different types of products. It will also do research into antenna designs for RFID tags to be used on products made of materials that reflect or absorb radio waves.

“The Auto-ID Center created a baseline system—how you connect objects to the Internet—but it didn't deal with a lot of the practical, real-world problems,” says Daniel Engels, director of research at the MIT Auto-ID Lab. “It didn't address standardization [of usage]. The SIG is designed around one of the problem areas: How do you tag cases and pallets, and how do you handle difficult-to-tag objects?”

Today, companies around the world are resorting to trial and error to determine where the best tag placement is, how to stack a pallet of tagged cases and how to cope with products that contain a lot of water or metal, which interferes with RFID systems. The SIG aims to develop software and hardware tools that will enable companies to quickly analyze a product and determine, with a high probability of success, the best way to tag a case of product or a pallet loaded with cases. This is critical for companies like Procter & Gamble and Unilever, which have hundreds of different products to tag.

A secondary focus of the group is to standardize procedures for placing tags on products. Engels says it's unlikely that there will ever be a universal standard that determines where RFID tags are placed. But, he says, it should be possible to develop generally accepted practices for tagging certain types of products, such as items with foil liners.

Based on input from the SIG, the MIT Auto-ID Lab will develop RFID antenna designs for tags placed on objects containing metal and water and develop models for creating antennas for use on other items. “We want to provide the scientific basis for antenna designs, instead of rules of thumb,” says Engels. “If you look at a lot of theory, it's wonderful but it doesn't jibe with practice. That means we need better models that reflect reality much more accurately.”

Members of the SIG will get discounted or royalty-free access to intellectual property created during the year through the work of the SIG (the lab is still negotiating this point with MIT, which will own all intellectual property generated by the SIG). The intellectual property could be in the form of software, tag designs or the results of research. The lab will produce academic reports based on its work, which will be published. Members of the SIG will receive these reports three months prior to their publication. If a company is not a member and would like to license the intellectual property created by the SIG, it will have to negotiate rights with MIT.

The Packaging and RFID SIG is open to all companies that want to join. The annual membership is \$50,000 for organizations that join before April 1; \$75,000 for those that join between April 1 and June 30; \$100,000, between July 1 and September 31; and \$150,000, between Oct. 1 and the end of the year. The pricing is graduated to encourage companies to join early in the year. If there weren't an incentive to join early, companies might wait to see what intellectual property was created during the year, determine it's value and then join late in the year to take advantage of the work done and paid for by those who were members all year.

In addition to the Auto-ID Lab, the founding members of the group include the Smurfit-Stone Container Corp., Georgia-Pacific, Kellogg and the Yuen Foong Yu Paper Manufacturing Co. (YFY), of Taiwan. Engels says packaging companies will benefit from the research that will be done on how different materials react to RF energy and how easy or difficult it is to read tags through various packaging materials. Consumer packaged goods manufacturers will benefit from the research on how to tag products and stack pallets. And RFID equipment vendors will benefit from the research into new antenna designs.

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