

New Industry Consortium Aims to Do for Active Tags what EPC Did for Passive UHF

New DASH7 Alliances Formed to Drive Interoperability; DoD, Dow Chemical, Michelin, Aerospace and Defense Companies on Board

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A new RFID and sensor industry consortium has been created that hopes to bring interoperability to active RFID tags and related readers (especially mobile ones) operating in the 433 MHz spectrum.

The group was formed by Savi Technologies, now a subsidiary of Lockheed Martin, but will run separately from Savi. Its goal is to "organize active RFID technologies into a strong, global standard."

Such a standard does not exist in the form of ISO 18000-7. However, as industry has learned from experience in other technology areas, a technical standard does not mean there is interoperability between different products and suppliers using the standard.

The name of the new organization, the DASH7 Alliance, is taken in part from The ISO standard it will use as a platform for additional standards and protocols that will result in interoperability. (Visit organization's web site here: [DASH7 Alliance](#).)

Active tags are used in a variety of applications, including the military, transportation, aerospace and defense, tire tracking, container tracking, and many more. Given their high cost, active tags, which use a battery to proactively broadcast their signals, are generally used to identify and track expensive assets or inventory. The US Department of Defense, for example, has deployed an extensive active tag network to track containers moving materials into theaters such as Iraq.

The group compared what DASH7 is trying to accomplish to what the WI-FI alliance did for general wireless communications. Just as with active RFID, there was an existing ISO standard (802.11) but

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compliant devices did not necessarily work with each other. It took a separate effort from the WI-FI alliance to bring additional standards that would deliver the interoperability most take for granted today.

Michael Liard, an analyst at ABI Research, notes that despite strong adoption in the military and some other applications, there are many barriers to further expansion of the active RFID market.

"In today's active RFID landscape, a number of market growth inhibitors and development challenges exist. Among these are numerous proprietary architectures, limited cross-vendor interoperability, hardware price sensitivity, a general lack of cohesion in partner ecosystems, and end-user confusion," he says.

The DASH7 Alliance hopes to whittle away at all those barriers.

Ultimately, DASH7 will have a lab(s) that will certify various tags and readers as meeting its inter-

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operability standards. Those devices that meet the certification requirements will be able to communicate with each other and with common networks.

One proposal has been made to house the first such lab at The University of Pittsburgh.

Different Application-Specific Standards are Required

Laird says the interoperability standards and certification will cover several areas:

- **Basic interoperability:** Ability for common networks to use readers and tags from any vendor
- **Low-frequency wakeup interoperability:** Standards for signals that "wake up" an active tag, causing it to broadcast its data
- **Sensor interoperability:** Similar initiatives for active tags that are connected to sensors, such as those used to monitor environmental conditions inside a container
- **Cargo security interoperability:** Standards related to so called "e-seals" of cargo containers that indicate whether a container has been tampered with during logistics processes after it has been sealed.

The DASH7 web site notes that "The goal of DASH7 technology is to be simple, elegant and reliable for handling bursty, light-data, asynchronous, transient usage models," or "BLAST".

That means the standards must be tightly tuned for dealing with inherently mobile devices that need to upload small bits of information reliably, though it will also support non-mobile fixed devices as well.

Vendor and End User Members

Membership in the DASH7 Alliance currently contains a strong mix of both technology vendors and end users of active RFID technology. On the vendor side, in addition to Savi, are companies such as Identec Solutions, Analog Devices, Texas Instruments, Unisys, and others.

On the end user side, members include Dow Chemical, Michelin, Lockheed Martin, and Northrop Grumman. The US Dept. of Defense is listed as an advisor to the alliance.

The organization expects to issue its first certificates of DASH7 Alliance compliance sometime this year. Only members of the alliance can actually receive a certificate for their equipment, and there is currently no federal requirement for DASH7 Alliance certification from vendors.

