

## Dash7 Alliance Seeks to Promote RFID Hardware Based on ISO 18000-7 Standard

Topics/Verticals: [RFID Standards](#), [IT/Infrastructure](#)

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By Mary Catherine O'Connor

Mar. 18, 2009—A new industry group launched today, intent on expanding the use of active RFID technology based on the ISO 18000-7 standard (also known as dash 7) across industries and sectors. The group, called the [Dash7 Alliance](#), has 20 member organizations, including RFID vendors, end users and government agencies.

[Savi Technology](#), [Lockheed Martin's](#) RFID company, initiated the group earlier this year in order to create a forum through which RFID tag and reader vendors will certify their products for conformance to—and interoperability with—the [ISO](#) standard, which is based on Savi's intellectual property (IP). The alliance also plans to develop new iterations of 18000-7 tags, such as a version with integrated environmental sensors, that it would then submit to the organization for standardization. The battery-powered tags operate at 433 MHz, which is available globally for RFID.

Pat Burns, Savi's head of licensing, says Dash7 goes beyond the mission of the 18000-7 intellectual property licensing group the company launched in 2006 ([Savi Announces IP Licensing Program for Active RFID tags](#)), the goal of which was to enable vendors to license the IP necessary to manufacture ISO 18000-7 products. According to Burns, Dash7 is more similar to the [Wi-Fi Alliance](#), which created a certification system to ensure the interoperability of devices based on the IEEE 802.11 standard for wireless communications. As with Wi-Fi Alliance-certified devices, hardware that passes Dash7 certification testing will carry a logo denoting its interoperability with the ISO 18000-7 standard.

Both conformance and interoperability testing are being offered through the [University of Pittsburgh's RFID Center of Excellence](#), a founding Dash7 member. Marlin Mickle, the RFID Center's director, says his organization has already created the software that will be used for the conformance and interoperability testing, and has prepared a laboratory where Dash7 members can bring their RFID devices for testing against the standard. Any organization can use the lab's testing services, he notes, though organizations would first need to join the Dash7 Alliance in order to earn conformance and interoperability certification if their products passed the tests. The testing software, he says, is also available for licensing by third parties.

The ISO 18000-7 standard is not new, and at least seven technology vendors have licensed the underlying technology from Savi. The [U.S. Department of Defense](#) (DOD) has been utilizing Savi products for track-and-trace applications for a number of years, and has recently issued a long-awaited contract, dubbed RFID III, that calls for vendors to offer five different types of active RFID tags (ranging from a simple battery-powered tag to others with up to 512 kilobytes of memory and the ability to support up to five sensors used to detect light, temperature, humidity, shock and tampering). All of these tags must comply with the ISO 18000-7 standard, and must be able to interoperate. But in order to bid on this contract, simply licensing the IP for 18000-7 tags from Savi would be insufficient. The

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vendors required confidence and third-party proof that their devices would interoperate with other 18000-7 devices.

Late last year, RFID tag maker [Evigia](#) told *RFID Journal* that in June 2007, it, along with several other vendors, had participated in lab trials conducted by the U.S. Army's Product Manager Joint-Automatic Identification Technology division at the [Pacific Northwest National Laboratory](#), in Seattle (see [Evigia Launches 433 MHz Active RFID Product Line](#)). The purpose of the tests was to prove each vendor's products could perform the basic functions described in the ISO standard.

But these tests did not certify interoperability, Evigia reports, so the company turned to the RFID Center for that testing. Evigia is a Dash7 founding member, as is the Pacific Northwest National Laboratory.

Other RFID hardware providers in the alliance are [Hi-G-Tek](#) and [Identec Solutions](#). The two companies announced a partnership last summer in which they would band together to create offerings to the Department of Defense (see [DOD Issues RFP for Active RFID](#)), per the RFID III contract's request for proposals. [RFind](#) is also a member, but does not list any ISO 18000-7 tags on its Web site.

Also joining Dash7 are semiconductor firms [Analog Devices](#), [STMicroelectronics](#) and [Texas Instruments](#).

The Department of Defense represents a major end user of ISO 18000-7 tags, but the [U.S. Department of Energy](#) (DOE) is another potentially major consumer of the hardware, as noted by James Shuler, manager of the DOE's Packaging Certification Program, during a press conference held to introduce the Dash7 Alliance. The DOE, through its [Argonne National Laboratory](#), has conducted extensive testing of Savi's ST-676 tags, which the lab modified with a range of environmental sensors. It plans to utilize the tags, in combination with other technologies, to monitor the location and condition of nuclear materials in transit. "These materials need to be managed for safety during storage, transportation and disposal," he explains. "Combining RFID with specific sensors allows the DOE to monitor and manage radioactive material in real time."

Outside of government agencies, end users participating in Dash7 are [Dow Chemical](#) and [Michelin](#). Dow, a long-time user of RFID technology for such applications as tracking its chemicals in transit, has been pushing for a tag standard that could be used globally (see [China Endorses ISO 18000-7 433 MHz Standard](#)). Michelin, meanwhile, is a proponent of employing interoperable passive RFID tags for tire tracking, and also employs active 433 MHz RFID tags in two different tire pressure monitoring systems—one for cross-country trucks, and another for heavy-duty construction trucks, known as earth-movers. Both systems employ proprietary air-interface protocols, according to Pat King, Michelin's global electronics strategist. Helping to create and promote the use of single, interoperable standards for RFID systems is King's main job at Michelin, he says, which is why the company supports Dash7. However, the firm has yet to play an active role in the alliance's efforts.

Mike Liard, an analyst with [ABI Research](#), showered praise on the alliance in a research brief, noting that the group shows "an enhanced sense of collaboration around a common cause." Liard further

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noted that ABI "foresees the Dash7 Alliance becoming a potential model for standard-centric market development of which other RFID-related and wireless technologies can emulate."

Aside from fostering collaboration among competing technology providers to promote the use of active 433 MHz tags across industries, another major goal of the Dash7 Alliance is to promote and push for the use of ISO 18000-7 tags for applications currently implemented with other wireless systems. These include ultrahigh-frequency (UHF) active tags, Wi-Fi-based tags and tags following the ZigBee protocol.