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Year in Review and Looking Forward at 2009 - Industry Perspective

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Monarch Antenna had an explosive year in 2008. In February 2008, it was awarded an R&D contract, as part of a NASA project, to develop a wearable adaptive antenna for astronauts. The antenna is based on Monarch's patented Self-Structuring Antenna (SSA) technology, and will be fielded in NASA's manned Lunar missions, which are scheduled to start in 2014.

On September 5, 2008, Monarch secured its first commercial customer (Applied Mesh Technologies, LLC, now SmartSynch, Inc.) for Automatic Meter Reading (AMR) applications using ZigBee and 6LoPan protocol.

Applied Mesh has integrated Monarch's GEN 1 antenna into its DCX product line for industrial applications and will start selling the units in 2009. The GEN 1 antenna was showcased for the first time at the 2007 Antenna Systems Conference (Denver, Colo.), and it corrects for polarization mismatches for ease of installation as well as improved RF link quality.

Monarch demonstrated Applied Mesh's DCX demo units with the integrated GEN 1 antenna at the 2008 Antenna Systems Conference (Austin, Texas).

In November 2008, Monarch completed development of its GEN 2 prototype antenna, which provides polarization and pattern-diversity. The current GEN 2 design operates at 2.4 GHz band but could easily be scaled to work on other bands. Multiple beams enable adaptive beam switching and MIMO implementations while target applications include ZigBee, Machine-to-Machine (M2M) and WiFi personal communications. In its current implementation, the antenna is well suited for wall mount, uni-directional applications and can easily be integrated into the circuit board of the wireless device. Initial field measurements show 9 dBm improvement in Received Signal Strength Indicator (RSSI) over a monopole in indoor environments. GEN 2 is currently undergoing field tests in both ZigBee and WiFi (laptop) demo units. The antenna is operated in an adaptive beam-switching mode with the aid of a control algorithm, which monitors the RSSI and selects the best beam and the polarization.

Monarch is in communication with a number of prospective customers for commercialization and licensing of its GEN 2 antenna. Monarch expects to be awarded a multi-year Phase II R&D contract (as part of the NASA project mentioned above) and a commercial R&D contract for a street level sensors application (utilizing the GEN 2 antenna), both in 2009.