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Darnell Group

NEWS

Energy Harvesting Will Power Growth Opportunities

Corona, California, October 30, 2006 – Energy harvesting and micro-power generators will be two of the key subjects explored in Darnell’s upcoming report on Ultra-Low-Power (ULP) Wireless Components and ICs. Generating power at the micro scale will enable standalone micro sensors and micro actuators with wireless communications to realize new system architectures in a variety of industrial, commercial, medical and other applications.

The worldwide ULP market is projected to reach over 200 million units by 2010. This study quantifies the market for ultra-low-power wireless components by application (Home Automation; Commercial/Industrial Automation; Medical, and Military), by technology (ZigBee, Insteon, Z-Wave, LonTalk, and Other) and by wireless converter and controller ICs. Various ULP technologies combined with energy harvesting are poised to drive significant growth. Several emerging markets have already been identified with growth rates in excess of 100% per year.

“Cost savings, as always, is one of the drivers for these new technologies,” according to Linnea Brush, senior research analyst for this report. For example, use of a piezoelectric-based energy-harvesting ULP wireless lighting control in a new warehouse saved \$32,000 in construction costs compared with the equivalent wired solution. The original design would have required the use of three-way switches to control 20 lighting circuits, due to the size and design of the building.

The development of micro power sources will enable ultra miniaturization and functionality of standalone new systems. The use of MEMS technology has already demonstrated size reduction, mass reduction, power reduction, performance enhancements, new sensing concepts and new functionality.

According to Ms. Brush, the convenience of wireless capability is balanced by concerns about security and robustness. As a result, this report has identified a trend toward small, difficult-to-access applications that can benefit from remote monitoring and control, often over short distances. The challenge is finding niche markets that aren’t already being targeted by most companies adopting the dominant protocols. How will energy harvesting, energy efficiency and new standards such as Wibree affect the market?

Having the best technology does not guarantee success in any market; having the best business model does. This includes having a competitive price and knowing the commercial traction of the existing technology. As a rule, system makers and end users will stick with the cheaper, established, “known” technology – in this case, wired solutions. A compelling business case needs to be made for a wireless solution, regardless of its technical merits. This study identifies the markets that are crossing over commercially, and which ones are still holding back.

Darnell’s “Ultra-Low Power Wireless Components and ICs” report is available for sponsorships. For more information, or to sponsor the report, please contact Darnell by phone at (951) 279-6684 x240; by e-mail at tshepard@darnell.com; or visit http://www.darnell.com/consulting/study.php?mc_id=33 to view the abstract, outline, brochure and order form.

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