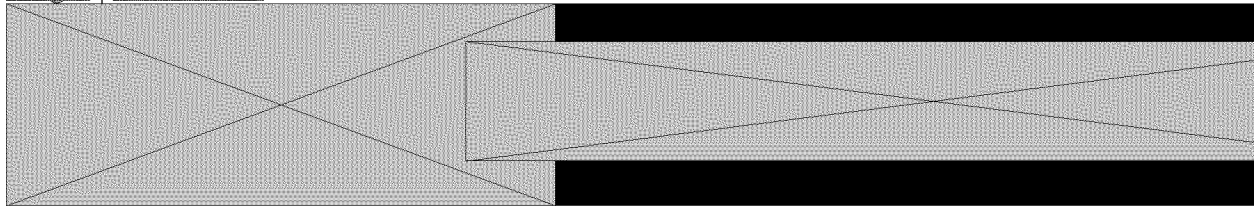


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Focus on Innovation: A Smart Washer With Perfect Timing
by Genevieve Dising
October 5, 2010

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The Smart Washer is equipped with a Zigbee node that connects to the smart grid.

Austin, Texas-based Freescale Semiconductor and European appliance manufacturer Indesit Co. have designed a Smart Washer that can control its own energy use based on cost and availability.

The Smart Washer is outfitted with a Freescale ZigBee node, which enables an operator to adjust the washer's cycle starting time according to energy cost and green power accessibility. This information can be taken from the local utility through the ZigBee-enabled Internet connection to the Smart Grid. As a result, the appliance can indicate in real-time just how much the energy will cost at a given time, and can help the consumer choose the best time of day to use it.

"The fact that [the Smart Washer] is primarily utility-driven means the homeowner or consumer has a choice about how much energy they use," says Freescale Wireless Connectivity Manager Brett Black. "By having Smart appliances like this one, you actually control the energy levels yourself."

Black says a consumer can save anywhere from 10 to 200% off his or her utility bill by using this method.

Daring Design

The washer helps consumers choose the most cost-effective time to turn it on.

Indesit Design Manager Stefano Frattesi says Freescale and Zigbee's core competencies, such as radiofrequency communication and Zigbee stack knowledge were essential in the Smart Washer's design.

"These were the fields where Freescale has been for us not only a silicon manufacturer but also a development partner," Frattesi said. "They helped us to overcome the difficulties in such a specific know-how, which is not in the standard technical background of a domestic appliance manufacturer."

Freescale was one of the first companies to join the ZigBee Alliance, which is an association of companies working to enable reliable, cost- wireless and energy-efficient products based on an open global standard. Freescale offers platform solutions supporting ZigBee Smart Energy, RF4CE, Healthcare and Home Automation. The company invests heavily in energy-efficient technology, which is part of the reason it was able to offer its smart grid solution to Indesit.

Black says Zigbee has been "near and dear to [Freescale's] hearts" since the two companies began collaborating in 2005. "Zigbee has been a good growth driver for us, not only from a business standpoint, but they've really provided us with solid backbone to engage with variety of technologies," he explains.

Zigbee is "heavily involved in smart energy activity," he continues. "They're really taking a global approach to it and the interest level both at an appliance level and a utility level is significant." Black says smart energy is one of the key areas of focus within the Zigbee Alliance, "Probably the most important focus area that's gained the most traction and has a significant amount of activity in the world-marketplace."

Smart Partnerships

Indesit plans to launch the Smart Washer after Q3 2011, in collaboration with a consortium of telecom companies to help drive its success. "We are moving from a product to a system and we are setting up collaborations with utilities and Telcos to make the Smart Washer possible," Frattesi says. These partnerships are especially necessary because smart grid is still relatively new.

"The lack of standards and the necessary interoperability of the system is still an important open challenge," Frattesi explains. The Smart Washer will be connected to the Smart gateway and to the utility via the Internet "in order to be able to receive the variable energy tariffs and the green energy availability every day, in an hourly time base," he says. "[By] using this information, the Smart Washer embedded intelligence will help our customers to save money and to help the environment. This is why Indesit is establishing partnerships with telcos and energy distributors and retailers in

order to make this service feasible and to engage common business and collaboration models.”

Freescale Director of European Business Development Mads Westergreen says Indesit’s consortium is promising. “They’re gaining creative momentum in the European market and have been driving the energy conservation much faster and longer than here in the U.S.,” he notes. So far, the Smart Washer has been met with a warm reception from the public. Indesit has showcased it at trade shows, including the 2009 Bright Green expo in Copenhagen. “The feedback from the visitors has been always enthusiastic,” he notes. “[Everyone wants to know] when will it go to market.”

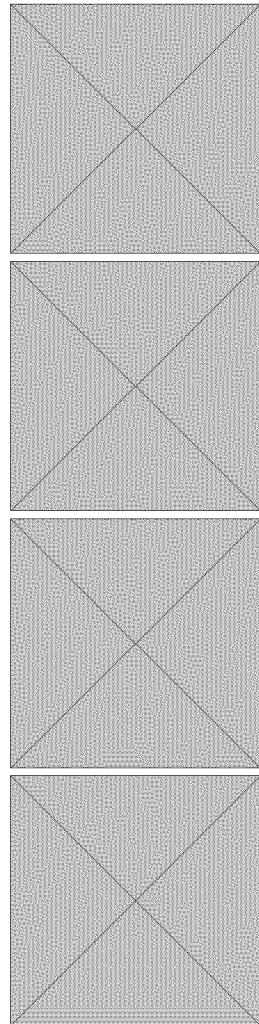
In addition to the Smart Washer, Indesit recently launched two projects focused on powering the smart grid to make its products more energy efficient. The first is a worldwide program for European trials of intelligent refrigerators with Indesit’s Dynamic Demand Control technology, which can manage consumption on the basis of grid availability. The second is Energy@home, a research project that will test a system of home appliance connections designed to maximize energy consumption.

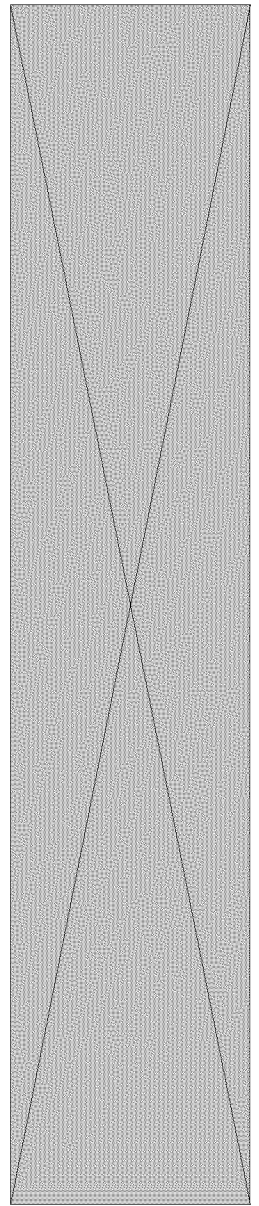
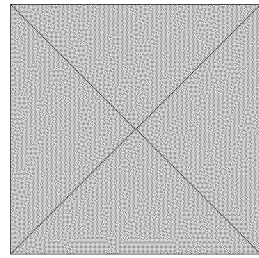
Genevieve Diesing

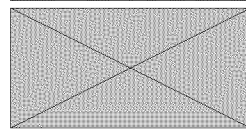
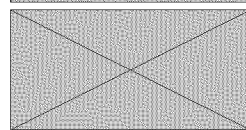
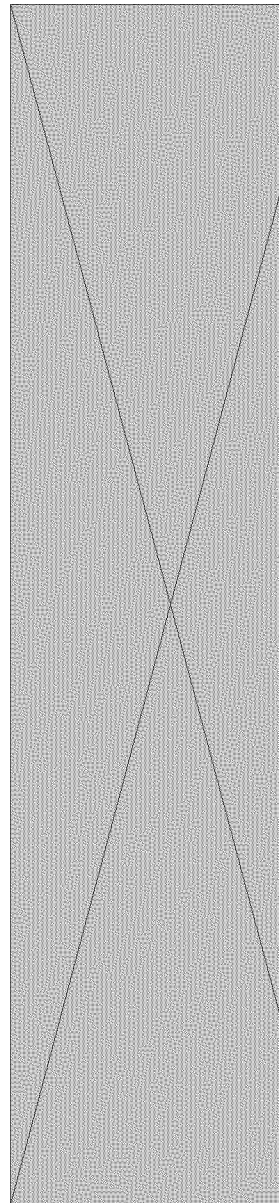
Genevieve Diesing was previously associate editor for appliance DESIGN.

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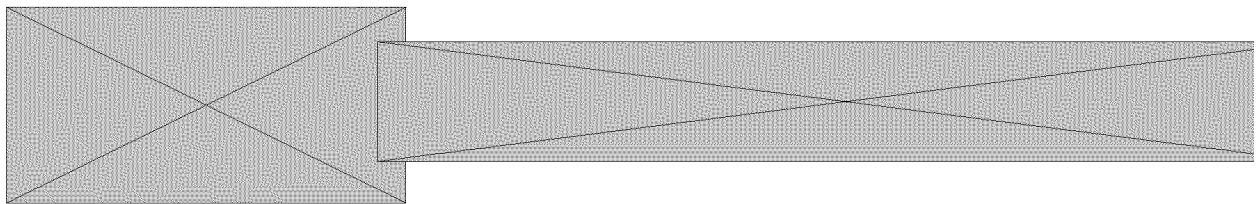
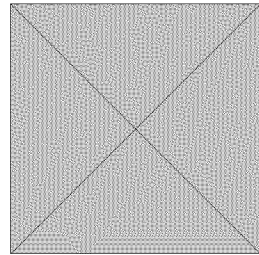
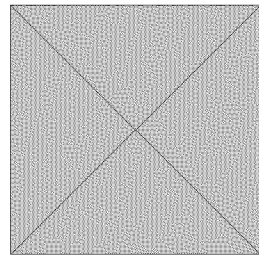
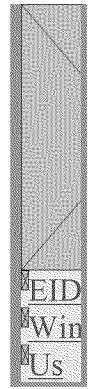






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