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SUMMIT
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Short Range Wireless Design Activity Looks Strong

Gary Breed
Editorial Director

One of the active areas of design prior to the economic meltdown of late 2008 was the ad hoc collection of wireless technologies for short range communications—ZigBee/IEEE 802.15.4, Bluetooth, 60 GHz high bandwidth systems, 315/433 MHz devices, and a whole host of schemes for home networking, wireless peripherals, game controllers, electronic device "syncing" and many other uses. I have long been a proponent of these systems, since they represent some of the most convenient and cost-saving applications for wireless communications, control and monitoring. Now that were are experiencing troubled financial times, business will necessarily become concentrated in areas where it fills a real need. Replacing cables with wireless links in many localized systems certainly fits that description.

In addition to simple economics, we have ongoing concerns for energy conservation and environmental responsibility. Many of the short range applications are exactly in this realm—tire pressure monitors, advanced reconfigurable HVAC and lighting controls, wireless utility meter reading, in-home energy management, etc. In cases such as building controls or factory automation, simply eliminating the cost and quantity of wiring materials may be enough justification. Then, reduced installation costs can be applied to creating a more thorough and flexible system.

In difficult times, families and friends tend to become closer. Today, much of that interaction is on our wireless phones and via e-mail. We share notes, photos and stories, many of which involve our digital cameras or camera phones. Getting those photos and videos from device-to-device currently requires either wires or the removal of a memory device of some sort. Life would be much simpler if that process can be done wirelessly!

Another common result of an economic downturn, especially the current one where the housing market was the first major victim, is that many people will abandon plans for a new home, and remodel their old one. Upgrading systems in an existing structure can be a lot of work. For example, simply replacing a traditional thermostat with a new model might require running a new cable with more conductors to the heating and cooling equipment. A wireless connection is much easier!

Also in the realm of energy efficiency are commercial HVAC and lighting controls. This was the initial impetus for the development of ZigBee. Getting the greatest efficiency—and saving the most money on utility bills—in a large commercial building requires lots of sensors and controls. And as tenants come and go, or as they rearrange their work space, the system needs to be modified accordingly. Wireless interconnection of these sensors and controls is more than just logical—it's a necessity.

None of the benefits of wireless technology have changed, but the current economic conditions will affect the priorities of developing and implementing new wireless systems. These short range systems seem obvious in their value, and I know there are other application areas that have the same ability to make something in our lives more efficient, less costly, or simply easier to deal with!

Fight the Recession—Get Involved!

One very good way to cope with the personal effects of an economic recession is to reach out to others. To overcome your personal depression over reduced retirement investments or layoffs, get involved in volunteer work, social groups and other places where you are welcome and your skills are needed.

As engineers, one place where we can have a big impact is education. We've heard about lagging performance in math and science. Hey! That's our main expertise. Schools, Scout troops and other organizations have opportunities for mentoring kids with a curiosity for the same things that steered us toward technical careers.

One of my own small contributions comes up soon, as a judge at a regional high school science fair. Helping select bright minds for recognition (and scholarships) has been surprisingly rewarding, relative to the small amount to time it requires.

So I encourage you to do something for your community, whether large or small. Beyond local involvement, volunteering to be part of an IEEE or other organization's technical conference helps support engineering students in our colleges and universities. Conferences are great venues for industry-academia interaction.

There are many ways to lend a hand. Pick one and make it your personal contribution to the success of the next generation!

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