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SUMMIT
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Wireless Applications for These Difficult Economic Times

Gary Breed
Editorial Director

We are facing many economic challenges here in the U.S. Since the boom times of the 1990s ended in late 2000 and early 2001, our government has spent too much and collected too little revenue. Businesses have reorganized, borrowed and merged as much as they are able. Many individuals have run up too much debt by continuing to spend while their real income has dropped. The wave of economic growth and strength has its peak elsewhere in the world, while a trough is what we are experiencing here.

I won't try to play economist and promote a particular remedy, but I can offer some ideas for wireless applications that seem to make sense when times are tough.

With apologies to Mr. Greenspan, I'd first like to note the "irrational exuberance" of the handset market. While handsets are an extremely important part of the high frequency marketplace, growth is being pursued mainly through gadgets and optional services. Sure, they are attractive to many of us, but when times are difficult they are unnecessary luxuries for those consumers who just can't afford another $20 (or more) per month for those features and services. Companies should keep working on new technologies and new features; their prime time will come eventually. Just don't be surprised if they don't meet overly optimistic market projections for the next year or two.

There are lots of other things that are excellent choices for these challenging times—things that save time and money for their users. Remote utility meter reading not only saves time and labor, it simplifies the analysis of customers' usage, allowing load management optimization and less reliance on purchased energy. Wireless industrial process control—including factory networks, RFID tracking and worker communications—can boost productivity, improve quality and save a lot of time when the plant floor needs reconfiguration. Wireless building controls are easier to install than big cable bundles, and allow easy optimization of environmental systems, access control and security monitoring.

Perhaps there are new ideas that can help with monitoring and rebuilding portions of this country's infrastructure, such as those bridges

that have been in the news lately. Surveying and construction aids, imaging systems, sensor networks and flexible job site communications will all be part of that work.

At home, low cost wireless has many ways to help us get more things done, entertain us, or just make life a little easier to cope with. Whether its adding a doorbell at the back door, creating a home computer network, or monitoring the temperature in the garage, wireless technology makes it easy. In the entertainment realm, digital TV is a giant step forward in picture quality and digital radio is just getting started. (I might note that a 32-inch digital TV set now costs about the same as a 21-inch color TV set from the 1960s—*without* adjustment for inflation!)

The technology we work with has opportunities for all economic conditions. The point I'm trying to make is that today's business targets should emphasize applications that have the most value for cost and time savings, convenience, efficiency, quality and flexibility. Of course, these are good things to pursue at any time!

When the economic wave rises again, be prepared to meet the demand (and offer clever new ideas) for services and features that are more fun and interesting. When we all have a few extra discretionary dollars to spend, great wireless products should be high on the list.

Some "Well-Grounded" Reader Feedback

Last month's tutorial article on power and ground received some thoughtful reader feedback. One comment was that single-point grounding was effective only at low frequencies, e.g., audio, and that multiple ground connections—often very many—were a more likely scenario for effective RF grounding. I agree, and those notes are a good addition to the article. Another reader suggested that the topic be extended to grounding outside the equipment, for safety, lightning protection and as a path for conducted and radiated EMI/RFI into or out of the device. While this was beyond the circuit-level emphasis of the article, it is an excellent suggestion.

Another follow-up suggestion was for an article devoted to the "defected ground" structures that were briefly noted. We will keep these topics in mind as we recruit future authors. Thanks for the phone calls and e-mails with your comments and suggestions.

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