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Work on Technology While You Worry About the Economy

Gary Breed
Editorial Director



It's pretty much impossible to avoid discussing the current economic woes that have spread around the world. But with so much analysis and commentary from pundits and experts alike, I'll try to limit my additions to the conversation.

As far as I am able to discern, the core of our economic problems lie solely in financial markets—the saving, investing, lending and borrowing of money. In short, there have been huge problems among the institutions that deal with “other people’s money.” I’ll let someone else sort out what parts of the trouble are criminal, negligent, or simply greed. All of these elements are clearly present!

The bright spot is that the manufacture of tangible products is only indirectly involved. Sure, money is the fuel of commerce, but industry is the engine, and the engine is in pretty good shape. There are difficulties in certain industry segments and variations in strength from country to country, but overall, making things that people need (and want) appears to be a reasonably stable business, just waiting for things to get better.

Smaller economic disruptions have occurred in the past—rampant inflation following the industrial slowdown after the Vietnam conflict, and job losses during the reductions in big military programs after the dissolution of the Soviet bloc. In the latter case, the tales of woe in our industry were quickly replaced with opportunities in the commercial sector, as production of computers and cell phone systems rapidly accelerated. Of course, engineering jobs changed in their style, but there was major new activity to replace lost business in other market sectors.

Today, we have no shortage of potential new products and systems using RF, microwave, digital and optical technologies. At present, all that’s missing is customers with enough cash—and enough confidence that they will continue to have some cash—to buy those new products and keep the wheels of the marketplace turning. Other parts of the “blue chip” business community are feeling the same effects. The fact that businesses are having difficulty despite their solid foundations, great ideas and excellent workforces is ample evidence of the scope of current problems.

Looking Forward

At the top of my caution list for the next few years is this: don't let the economic conditions force good engineers quit, retire, or move to other industries!

The so-called "end of the Cold War" around 1990 resulted in many layoffs and early retirements at large defense contractors. The oldest, most experienced engineers got the best buyout offers and happily took their early retirement. Unfortunately, in many cases, they also took their unique knowledge home with them!

A few years later, I started hearing stories of younger engineering staff having problems catching up on technology that their companies once applied regularly. I even got a small consulting job to help a company re-develop a system that had not been used for decades, but was

now needed for the new fast-response mission of the military.

Next on my list of warnings is to avoid having our financial problems result in a reduced quality of education. This applies at all levels from pre-Kindergarten to graduate research. Education is the single most important pillar in the foundation of strong economics, and of our attitudes and appreciation of the wider world around us.

On the positive side, there are new technologies waiting for development, promising to provide new areas of economic development. Many of these are also part of the solution to problems of energy demand, pollution, climate change, and shifts in personal lifestyle. I've joked that if I needed to change jobs tomorrow, I'd become a contractor specializing in energy-efficient technologies that make eco-

nomic sense in monthly utility bills as much as they reduce the world's total energy consumption.

On a larger scale, the cost vs. savings formula is rapidly improving for wind and solar energy generation. I've long believed that these technologies would not be implemented until they make sense financially—in a short to medium timeframe. That tipping point is finally approaching, and the development effort needs to be accelerated now.

We have been hearing our presidential candidates talk about future plans, too. As all politics goes, there is too little detail on most issues and the methods proposed are different. Regardless, a thoughtful vote in next month's U.S. election is important—at both the local level and for national office!