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High Frequency Electronics (ISSN applied for) is published monthly by Summit Technical Media, LLC, 3 Hawk Dr., Bedford, NH 03110. Vol. 6 No. 1, January 2007. Application to Mail at Periodicals Postage Rates is pending at Manchester, NH and at additional mailing offices.

POSTMASTER: Send address corrections to High Frequency Electronics, PO Box 10621, Bedford, NH 03110-0621.

Subscriptions are free to qualified technical and management personnel involved in the design, manufacture and distribution of electronic equipment and systems at high frequencies.

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Predictions for an Engineer's Job During 2007

Gary Breed
Editorial Director



Each new year brings a series of predictions, mainly about technology and the marketplace. This, year, I'll make my predictions for an engineer's job requirements. After all, developments in markets and technology are inextricably tied to the engineering lab!

We know many of the markets and technologies that are being promoted right now—sensors and their networks, next-generation mobile wireless, high bandwidth home and office wireless networks, mm-wave systems, RFID, reconfigurable radios for the military, law enforcement and emergency services, plus many more. In addition to the end products, these applications also need components, design tools and test equipment.

The large number of promising applications is an important part of the 2007 story—and I haven't even mentioned non-radio uses of high frequency engineering techniques such as high-speed digital circuits, optical technologies and the tools used for controlling and measuring physical phenomena for scientific research.

There is a lot happening in the world of high frequency electronics!

The Engineer's Challenge in 2007

Engineering, by definition, is the process of turning ideas into reality. With so many ideas ready to be developed, 2007 promises to be a busy year for our readers!

I can sum up the new year's challenge as this—Explore, evaluate and develop many different technologies into viable products that, hopefully, will have strong results in the technology marketplace. It's a big job in any year, but it has been a long time since I've seen so many different things in active development.

The only thing tempering my enthusiasm is uncertainty in the time it will take to get some of these promising ideas developed. Different parts of each system need to be developed in tandem—RF hardware, operating software, batteries, displays and packaging. In some cases, such as sensors, potential users still need to be educated about the possibilities and be willing to make changes in current operational procedures.

One of my surprises over the past several years was the slow develop-

ment of high definition television (HDTV). In hindsight, I can now see that consumer and industry inertia was stronger than expected, and it took a significant amount of time to develop cost-effective large-screen display technologies. We'll see similar issues as some of today's new ideas are made ready for the marketplace.

I hope engineers will not be discouraged after investing their time and energy into a project that is not the success its developers expected. Of course, we know this happens all the time, but that rarely softens the disappointment. Inevitably, some new products won't make it to production, because of competition, mis-reading of demand, or simply because that piece of technology was leap-frogged by a better idea before it even got started! That's a normal, but frustrating part of any business.

Our New Year Challenges

In the publishing business, we have similar challenges. First, we have to keep up with all those new ideas that our readers are pursuing. It can be hard to give each the attention it deserves. Staying abreast of changing technology is a daunting, but fascinating task.

Then we have our own developments to pursue, such as how to address delivery methods like online publishing. Since this magazine was started, we have had an online version. We are in the process of upgrading our Web presence to a version with an appearance more like the printed magazine. We think this will be a "plus" for our online readers. An improved online presence also reflects our advertisers' greater reliance on the Internet to provide product data, receive requests for samples, and provide applications support.

Along the way, we have engineering-like choices to make. For example, we need to balance image quality with bandwidth. A printed magazine is sharp and clear, but that same quality in our online edition would result in unacceptable file sizes and download times.

We will find the right solutions, just like our readers find them for their projects. We will continue to print and mail a magazine that requires no batteries or computer to read, and at the same time, we will improve the online version of our magazine to make the best use of constantly-improving communications technologies.

I won't be surprised if we use some of the new ideas *you* are working on this year to deliver future editions of *High Frequency Electronics*!