

Michael C. Shores

# Optoelectronics' Technology Roadmap

It's time to map out a more competitive strategy – together.

**A** plan is necessary to get anywhere or do anything in business. And a plan means “any detailed method, formulated beforehand for doing something,” specifically: design, project and scheme. That’s the dictionary definition, yet it reads as though it were crafted by optoelectronics and photonics engineers. Design stresses the final outcome of a plan and implies the use of skill of craft; project implies the use of enterprise or imagination in formulating an ambitious or extensive plan; and scheme, less definite than the rest, often connotes a visionary plan.

For the plan to be successful you must collaborate. In short, “work together ... in some scientific undertaking.” (Again, optoelectronic/photonics engineers at work.)

At the beginning of this millennium the optoelectronic/photonics industry had a roadmap, a plan, plenty of industry collaboration and plenty of investment capital.

Like many industries, ours is full of competition and faced with fragile shifts in the marketplace, subject to enabling technology challenges, changes in international and regulatory laws, and capitalization availability and requirements.

With all that said, one would think that this industry should be booming and growing at a pace similar to that of other competing technologies. After all, the future of the universe and this planet was created, and is continually being recreated, at the speed of light.

However, the reality is that this industry that once enjoyed a blank checkbook has taken a backseat to other technologies such as wireless and broadband. It almost sounds like the VHS and Betamax story. But why? Is it the lack of enabling technology solutions? Is it the cost of the infrastructure? Or, perhaps, the lack of industry collaboration in overcoming universal competitive challenges?

To explore these questions we begin with the proposition that optoelectronics is the proverbial light at the end of the tunnel. The answer to the first question – Do we lack enabling technology solutions – is, not really. Optoelectronics technology still maintains superior advantages in speed and bandwidth that bring robustness to endless applications and provide significant consumer benefits. Second, it is not the cost of infrastructure that’s a deterrent. The backbone of this technology is already in place.

It is in addressing the latter question that some deficiencies appear. Whereas industry conferences on optoelectronics once were abundant and a roadmap was developed, such resources have declined and efforts

lapsed. Discussions for establishing standards have been shelved. Companies have returned to legacy technologies, merged with other companies, looked to new markets, gone out of business or held their breath with hopes that the industry will bounce back.

Yet, many optoelectronic and photonics products and technologies are still profiting and proceeding. Instead of waiting for the market to come to them, experts in these fields must forge ahead.

Which gets us back to the definition of “plan.” It seems we started with a good design and project, but what happened to the scheme? We need a return to industry collaboration and invest in time and resources to update the technology roadmap in order to advance optoelectronic technology – and the industry.

Like many other optoelectronics companies, we are all stakeholders in this industry with personal investments of time and capital. It is to our benefit to collaborate and make a concerted effort to work together, with a strategy of clear goals and objectives, to bring in the prize that this technology has the potential to deliver.

In closing, we invite comments about this column and subject; write michael.shores@texasprototypes.com. ■

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