

# “A Necessary Evil?”

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The 20th annual Applied Power Electronics Conference and Exhibition (APEC) in Austin this year might well be remembered as the turning point for market recognition of the importance of power electronics.

I recently had the occasion to be hanging out with a couple thousand power electronics industry people in Texas, when I had an almost out-of-body observation of us as a group, and the observation has some pretty significant implications for us. So if you'll indulge me, I'll share it.

I was sitting in one of several technical sessions, when I realized that I'd heard something about 3 times at the conference already: “The power supply is a necessary evil.” It was a power engineer, casually parroting the attitude(s) of his customer base—attitudes that fundamentally drove his activities. I thought about that. “A necessary evil.” Hmm. It sounded like things I've heard for years in the consumer part of the motor drive market as well. “A necessary evil...”

How did we get to this point, a place where what we're working on is “a necessary evil”? And by the way, who wants to work on a necessary evil??? How exciting is that?

I have developed products for and sold into this market for about two decades now, so I can certainly understand where this attitude was developed. We developed it in speaking with customers who knew little about power, and for whom it was not a critical function. In other words, they didn't value power. They told us that it was a necessary evil, and in the absence of any compelling evidence to the contrary, we believed it. Heck, it may have even been true.



Now mind you, I'm a realist. I'm not going to tell you that the emperor has some great clothes, and ask you to just believe. It probably hurts the brain just to imagine going to your customer(s) and saying anything other than “okay, here's what we're doing to drive cost out of our function.” But in the same breath, I'd like to ask a question: How valuable can “a necessary evil” ever be?

Business is all about knowing what your value is, and then getting paid that value. You create value and articulate your value to your customers based on this self-image of what your value is – it's the basis of what we direct our R&D engineers to create, it's what drives our marketing and business management people, it's all that becomes available as tools and messages to drive our sales people. If you accept the notion that you are nothing more than “a necessary evil,” what kind of conversation do you think you're going to be able to have with potential customers?

Ironically, an equipment system designer's freedom to design is now bounded by (or better, enabled by) the kind of power systems available to him or her. This is truer today than it has been for the last 20 years that I know of. One significant change is that power is

now a critical function, a rate-determining step (or at least a cost- and space-determining one). Another fundamental change in the landscape is the set of possibilities created by the convergence of power, data processing, and communication. The competitiveness and differentiation of the end system are tightly interwoven with the power system. You can't easily design a smart network of drives to run your factory in a revolutionary way if your drives can't be communicated with easily. The more work that we do to facilitate new possibilities for the designer, the more they are going to be able to value our product. Of course, this requires that we seek out designers at a level above the “same thing for 10% less than last year” level.

I would propose that it would be much more powerful for us as suppliers (and for our customers as well) if we were to stop blindly accepting the “necessary evil” image as our own, and to adopt a new self-image: “Power supply as enabler.” “Motor drive as enabler.” “By using this product or this approach, you can make a much more valuable end product.” This is a much broader perspective, where “value” is a subject to be explored between you and the customer, not just dictated to us as being “lower cost” (which is only one side of what's potentially valuable). Sure, “more valuable end product” could simply be one that costs 10% less next year – but it could also be a product that does things not possible before.

In the end, this is all just my conversation to create a new possibility for how our portion of the industry could work, and how we might become much more profitable. You don't have to accept it. You can continue to do business in the existing paradigm. At least we know what that's like.

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