When Electronics Go Green, Everybody Wins

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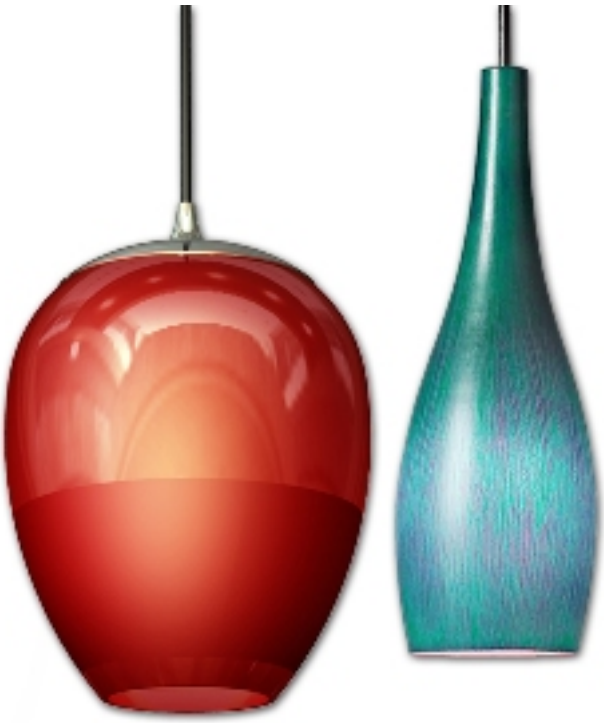
For members of the electronics supply chain, going “green” is not just a short-term marketing scheme rife with buzzwords but short on substance. Granted, the tech sector has jumped on its share of bandwagons, but this movement is different. It’s not just about pioneering technologies, building a positive public image, padding the bottom line or even “doing the right thing.” It’s all of the above. When state-of-the-art electronic products are energy efficient, environmentally sustainable, and cost effective, everyone wins.



So, how do OEMs put this concept to work? Today’s engineers must recognize that power consumption is only a part of the problem and, therefore, power reduction is only part of the solution. Advanced technologies in both semiconductor and passives that are both “green” and cost competitive have equipped OEM engineers with the tools to take eco-design beyond power management. An environmentally-optimized design calls for a systems-level approach. This includes the use of fewer and more eco-friendly components, as well as maximizing product longevity, and considering the eventual reusability and recyclability of the end product.

All these factors must be considered along with the usual smaller, faster, cheaper criteria. With OEM development budgets already stretched to the limits, engineers

can easily become overwhelmed by the myriad new technology choices. So what are their options? They can stick with what they know and risk falling behind the technology curve, or they can reach out to their distribution partners for market insights, technical training and support, and more.

A distributor's supply and design chain services provide access to leading edge technologies, while also assuring that designed-in components meet regulatory standards as well as other cost, availability and manufacturability requirements. Only authorized broadline distributors have the breadth and depth of product and industry knowledge to be able to provide OEMs with a true across the board systems level-approach to eco-design.

Power Tools

Distributors understand that no matter how outstanding a technology may be, it is of little value to engineers without the expertise to effectively incorporate it into their designs. Distributors know that people have distinct preferences about how, where, and when they like to learn and provide customers with a wide range of informational services and educational opportunities that can satisfy the diverse needs of our customers. These services include product-focused e-newsletters, like Avnet's Technology Review; quick technology primers, such as Avnet's on-demand eeTechBrief webcasts; and in-depth, hands-on training, like Avnet's SpeedWay and OnRamp design workshops. Of course, no job can be done properly without the right tools. Distributors like Avnet offer drop-in solutions, like reference designs and development kits that can save designers a great deal of time and money by eliminating the need to purchase expensive, off-the-shelf modules or design their own custom solutions.

Step by Step

Though these power management efforts are an integral part of any "green" strategy, these alone will not affect the type of comprehensive progress most OEMs and their customers demand. It is important for OEMs to understand that going green is a multi-dimensional commitment, and a journey that must be carried out in steps - sometimes the steps are small, sometimes they are giant leaps. An electronics maker can do its part to protect the

environment simply by extending the life of its end product. Component obsolescence can be the death knell for an OEM end product. Distributors can help keep products in service, and out of landfills, with custom packaging solutions. When no standard package exists, for example, we suggest replacing the aged product with a device created using commercially available die placed in custom packages.

On the other hand, breakthrough technology like light emitting diodes (LEDs) has enabled some OEMs to dramatically increase the power efficiency of an end product, while largely decreasing its adverse environmental impact. According to the U.S. Department of Energy, 22 percent of electricity used in the U.S. powers lighting. Within 20 years, the conversion to LEDs could reduce electricity demands from lighting by 62 percent, eliminate 258 million metric tons of carbon emissions, and lead to financial savings exceeding $280 billion.

The potential is mind boggling, but the conversion won't be easy. This technology is so new and so different, that many OEMs simply don't now where to start. Again, distributors can be an invaluable resource in these efforts. Distributors have created specialized business groups to focus on this technology and its applications. For example, Avnet's LightSpeed operating unit has been teaching members of the electronics supply chain about the many benefits and applications of this technology, including its durability, longer operating life, and lower maintenance and life-cycle costs.

Leadership by Example

Aside from facilitating the greening of the electronics supply chain, distributors are actively working to become a more environmentally responsible organization. For example, Avnet's internal efforts are a three-year project to increase the energy efficiency of data centers from a holistic standpoint, focusing on technology and the physical environment. In turn, this enables the conservation of critical data center floor space and power, and avoided millions of dollars of power build out and raised floor expansion.

Despite the obvious economic and environmental benefits of "going green," the question remains: what happens when fuel prices stabilize or the polar ice caps stop melting? Will the tech sector go back to "business as usual?" I don't think so, and the distributor's role in bringing more energy-efficient and sustainable yet cost-effective electronics products to the end customer is key.

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