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# Darnell Group

# NEWS

## Where's the DC-DC Converter Market and Why Did It Shrink?

Corona, California, November 12, 2008 – The just-released Tenth Edition of Darnell's "Worldwide DC-DC Converter Modules and ICs Forecasts: Application, Amperage, Wattage, Isolation, Input Voltages, Output Voltages, and Converter IC Trends" quantifies the dramatic changes that are occurring in the market for dc-dc converters. This complementary volume provides a quantitative analysis of the impacts of the numerous trends detailed in the recently released report on "DC-DC Converter Modules and ICs: Economic Factors, Application Drivers, Business Models, Packaging and Technology Developments." This analysis finds slowing growth, even shrinking markets, for various categories of dc-dc converter modules. It is a major development for an industry that is used to historically robust growth opportunities. At the same time, the report identifies and quantifies growing opportunities for makers of embedded dc-dc converter components.

One of the primary factors driving change in the dc-dc market has been the growing number of power rails in a typical piece of electronic equipment. For example, there are about 20 in mid-range servers, 30 in high-end servers, and 40 or more in an Ethernet router, each with a dedicated dc-dc converter. This represents a dramatic increase in the need for distributed dc-dc converters in many systems.

"While this sounds like good news for makers of dc-dc converters, it is just the opposite," stated Jeff Shepard, president of Darnell Group. "System makers always have a "power budget," the percentage of the system cost that can go to powering it. Let's say the power budget is 8%. This doesn't change just because the number of voltage rails has increased. If the number of rails doubles, the power budget does not. The cost of power has to be cut in half just to stay within budget."

"It's not generally possible to cut the cost of dc-dc converter modules by 50%," Shepard continued. "The solution has been the replacement of almost all dc-dc modules in high-end equipment with so-called embedded solutions. The emergence of integrated dc-dc components such as DrMOS devices and improved on-line dc-dc converter design software tools from power semiconductor makers have been two of the major developments enabling the replacement of dc-dc converter modules with embedded designs," Shepard concluded.

Application dynamics are also playing a key role in the evolution of the dc-dc converter module market. Darnell Group has identified several significant segments in the Communications, Industrial, Medical and Aerospace segments that present significant growth opportunities for dc-dc modules. As a result of the diffusion of opportunities outside traditional applications such as Servers and Telecommunications gear, this report provides the most detailed application analysis ever offered for the dc-dc converter market. Various application segments are broken down into numerous sub-segments including: Communications (6 sub-segments), Computers (11 sub-segments), Consumer (7 sub-segments), Industrial (3 sub-segments), Medical (4 sub-segments), and Military/Aerospace (2 sub-segments).

The Tenth Edition of Darnell's "DC-DC Converter Modules and ICs: Economic Factors, Application Drivers, Business Models, Packaging and Technology Developments" report is available for immediate delivery. For more information on Darnell's analysis of market trends and opportunities for makers of dc-dc converters and related semiconductor devices, please contact Traci by phone at (951) 279-6684 x251; by e-mail at [tshepard@darnell.com](mailto:tshepard@darnell.com); or visit <http://www.darnell.com/dcdc>

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