

National Semiconductor could become top performing analog IC vendor, says Petrov Group

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National is the second ranked power management IC vendor, nearly one-half of its total US\$1.4 billion revenues comes from power management. National is also well positioned to become the industry's top IC vendor in terms of performance and valuation, according to Boris Petrov, president of the Petrov Group.

This insight may be surprising for a company founded in 1959 whose revenues declined 50% from US\$2.7 billion in 1997 to US\$1.4 billion in 2010. For decades the company was wandering in a digital desert pursuing "PC on chip" and other distractions; only in 2005 did National reintroduce a word "analog" in its description, Petrov pointed out.

National is positioned to become the industry's top IC vendor in terms of performance and valuation [by breaking the historic growth-profit barrier of the analog IC business](#). The growth-profit barrier represents the traditional inherent tradeoff between revenue growth and profitability that has marked the industry since its start five decades ago.

For the performance "gold standard" of the analog industry, Linear Technology, growth is incidental. Linear is a pure-play profit-driven IC vendor; its gross, operating, and net income margins have remained unsurpassed in the analog IC industry for decades. National, however, is in a position to combine growth with very high operating and net income margins.

[Achieving industry-average growth while sustaining high profit margins would be a unique achievement that has eluded all its competitors. This elusive achievement is uniquely possible in the power management domain where power efficiency is a common attribute of all end-equipment systems.](#) There is no such common denominator for signal path products where there is a large number of various analog performance attributes unique to specific products and end-equipment applications, noted Petrov.

National's unique opportunity is that power ICs have remained its core competency and are its corporate strategic thrust area. National's PowerWise product brand strategy stipulates that its products should deliver the highest power efficiency at very high analog performance. National already has a strong power management franchise which generates large revenues per generic product, about US\$1.3 million per year. Its well established product lines such as Simple Switcher power conversion products introduced in 1990 and evolving through five family generations generate about US\$5 million per generic product per year, according to Petrov.

The analog power conversion domain is the core of National's power management franchise and features about 323 generic products (out of 513 total power management products) dominated by non-isolated DC/DC conversion ICs and modules (279 products): linear/LDO regulators (97 products), inductor based converters and controllers (159 products), and inductor-less (charge pump) converters and controllers (23 products).

Single-function and single-channel products represent more than 90% of products. All eight power domain businesses are under the PowerWise umbrella branding strategy: in each power domain National focuses on end-equipment applications featuring the lowest level of energy efficiency, hence enabling the company to grow revenues as well as sustain very high profitability.

National focuses on standard product ICs featuring high power efficiency performance while addressing a broad range of end-equipment applications in both existing and emerging growth markets. High margin and revenue growth will be achieved primarily via application-specific products. This requires a shift from building block products to application-specific and system-level products. This, in turn, means a shift from an emphasis on product level to end-equipment power efficiency performance as well as a shift to vertical end-markets.

The company has already distanced itself from other leading power IC vendors by approaching Linear Technology in terms of gross margin, noted Petrov. The new top management's mission is to refine and execute a unique growth-profit driven strategy.

In theory, successful execution of the National corporate growth-profit strategy could place National among the top industry performers within the next two years. [In practice, however, National has the dual challenge of achieving growth while maintaining high gross margins and changing its corporate structure and culture to reduce expenses.](#) Modifying the company's DNA is typically very difficult to implement; currently National's operating margin is below 25%.

Petrov's model indicates that National's unique growth-profit strategy requires growth with at least 30% operating margin and that almost all of the expense reduction should come from SGA expense reduction; certainly an immense challenge.

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