

NXP and Freescale Become One



OBJECTIVE ANALYSIS SEMICONDUCTOR MARKET RESEARCH



Some SKUs May Die

NXP Semiconductors announced on March 1, 2015 that it will buy competitor Freescale Semiconductor for \$11.8 billion. NXP claims this will give it the #1 position in both general-purpose microcontrollers (MCUs) as well as the #1 position in automotive semiconductors, but that will depend on what products are counted in each category. NXP is only counting MCUs sold into automotive in the automotive category, which is fair, although Freescale counts some processors sold into cars in the MCU rather than the automotive category.

We're Number #1

Company rankings are often a bone of contention and may not reflect supreme execution but a mathematical twist of fate. The previous #1 MCU vendor was Renesas. However, Renesas didn't attain this ranking by out-selling Freescale in MCUs, but instead was a simple sum of MCU sales from the three companies that formed Renesas – Hitachi, NEC, and Mitsubishi. With inevitable overlap of product lines of 2 or 3 companies, some products ultimately get End-of-Life'd (EOL) or just get no new development or speed upgrades. This can be an opportunity for a competitor to steal market share from the supposedly larger company. Although Renesas professed it would not abandon any products, at some point in time it had to thin out its SKUs and choose the customers' long-term favorites that had high profit.

NXP and Freescale will face similar product conflicts. An OEM looking for an ARM Cortex M-4 with floating point, an exotic timer, some networking, and 1MB of Flash may have two MCU choices: one from the former NXP and one from the old Freescale lines. One of the benefits of a larger vendor should be to collapse all this business onto one rather than many chips, so some hard choices will be made as to which one to cut. That's a big part of the company cost-saving techniques. But the customer of the EOL'd part is going to be upset about having

to re-write all the code on an older design and will often go to a new vendor as a result.

Products & Markets

The history of NXP and Freescale gives some clues to the markets they serve best. NXP spun out of Philips' consumer products company. Many of NXP's target markets are in the consumer electronics space. Freescale spun out of Motorola and served both radio and telephony businesses (with now only networking, which it helped birth, remaining), but the old Motorola MCUs practically began the microcontrollers-in-the-automobile revolution, starting with engine control. The spinoff of NXP and Freescale happened less than 10 years ago and both companies have struggled to continue a healthy business, often competing head-to-head, especially in MCUs, and even moreso in ARM-architecture MCUs.

Both NXP and Freescale have microcontroller chips, and both serve the automotive industry with both analog products (transistors) and MCUs. A significant business of Freescale is in networking where the PowerPC architecture has held a strong position – coupled with network-specific processors. NXP has no equivalent in either high-performance microprocessors or in networking. The business is so good at Freescale that other companies have been hammering them with alternative approaches, such as Intel muscling in with its x86 processor architecture layered in with some networking specialties, as well as some Chinese concerns with their own approaches. NXP should let Freescale continue in this important market.

It's the People

In spite of what Wall Street may herald, one of the most valuable assets of a company is the people that make it. Gregg Lowe is the CEO of Freescale, having come from Texas Instruments (TI) only 2 or 3 years ago. Gregg's long experience at TI was a huge asset to the still-flailing Freescale. It wasn't only his automotive and MCU experience or even that he was a long-term TI employee that was a breath of fresh air. But Lowe brought a lot of credibility to Freescale which had seen a revolving door of execs who decimated the ranks of engineers, marketing, and production talent. When Gregg spoke to the rank and file, it was as an equal, not from a lofty perch with shifty eyes. The worker bees at Freescale hadn't seen this management style for 20 years and all felt dedicated to Lowe and his mission, leading to a positive turnaround.

About the same time, Freescale hired Geoff Lees, a driving upper manager from NXP's microcontroller operations who may have felt he wasn't being given the resources he really needed. Lees understood the market like the back of his hand and could get the designers to develop new MCUs at a rapid pace to address opportunities. While Freescale had given tepid endorsement to the ARM

architecture for MCUs, it wasn't until Lees arrived that Freescale started coughing out all manner of ARM-based MCUs and gaining market share. Lees is very effective as the vice president and general manager of MCUs at Freescale and never seems to slow down.

It's hard to say what the management style is at The Netherlands' NXP. It can be difficult to blend two cultures even if they're European and American. There is a reasonable amount of moving around of personnel from one company to another in semiconductors. Lees was also at Infineon long ago and Jim Trent, current VP & GM of the smaller MCU operations at NXP, came from NEC automotive, which became part of Renesas. Trent also had been at Motorola.

NXP executives will have to carefully balance the key personnel at original NXP and the old Freescale, as well as the products they produce, to keep the growth positive at the new company. This is often the downfall of such mergers.

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Tom Starnes, Processor Analyst

OBJECTIVE ANALYSIS

Semiconductor Market Research

www.Objective-Analysis.com

PO Box 440

Los Gatos, CA 95031-0440

USA

+1 (512) 345-4074

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