



OBJECTIVE ANALYSIS

Semiconductor Market Research

OBJECTIVE ANALYSIS ALERT!

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RENECAS: THE MERGER OF THREE MCU COMPANIES?

Reports are being circulated that NEC Electronics will merge with Renesas which itself is the result of the merger of the semiconductor operations of Hitachi and Mitsubishi of about 5 years ago. In terms of MCUs (microcontrollers), Renesas became the largest vendor when it was formed from the #2 and #4 vendor. Merging with NEC's MCU operations would give this one vendor an unheard-of 30% market share of microcontrollers in a market where the biggest of 30 vendors barely trip into double-digit market shares. However, it is no small chore to gain a benefit from the merger of two large microcontroller vendors.

A global economic recession has kicked every industry in the gut. Semiconductor vendors are used to dramatic up and down cycles where prices and supply are in continuous flux. This year, chips are having a particularly difficult time and many have wondered what kind of consolidation will take place, and what will be the outcome. To look at vendors that are heavy in microcontrollers, back in better times, a number of parts of Freescale were thought to be available for purchase (the wireless division still is), and when NXP was separated from Philips there had been much talk about selling off that largely-MCU semiconductor division. Most recently Microchip Technology attempted to buy rival Atmel but was pushed away. The formation of Renesas was the last merger of significant processor chip vendors.

There are two benefits of consolidation in the semiconductor business: cost improvements and product synergy. Semiconductor design and manufacturing is highly resource-intensive (design engineers) and capital-intensive (billion-dollar fabrication facilities). It is difficult to realize greater output of design engineers at a larger company than a smaller one because every new chip will generally require a given number of engineers according to its complexity. Manufacturing costs can be improved by driving more chips through the fabs, but first any newly-acquired chips have to be reconfigured for the new process node in the fab – a very resource-intensive effort. Two companies cannot just be slapped together and see immediate, or even short-term financial benefits. Renesas decided early on to sustain the Hitachi lines as well as the Mitsubishi MCU product lines. This isn't so much a consolidation as a co-habitation. Adding NEC to the line card may be approached the same way. Without paring down of overlapping families, it will be difficult to provide much financial gain.

Few semiconductor vendors have all the chips that are needed for any customer's electronic end-equipment. Yet this is a very productive goal because it locks a customer – and usually an application category – to the vendor, and because it eliminates pesky competitors. If one company has some key components that give another company a

substantially more complete offering, then putting those two together is a strong combination and encourages design so the various components work well together. Considering the broad offering of today's Renesas as well as NEC, most of the products seem to overlap rather than provide new synergies.

In short, although there may indeed be merger talks between Renesas and NEC, we see little of the traditional benefits from a prospective merger between these two firms.

Tom Starnes

+1 (512) 345-4074

Objective Analysis

Austin, TX

USA

www.Objective-Analysis.com