

StarChip Invents IC Product Provider Business

Founded just a year ago by three prominent IC product development specialists – including the former director of Atmel’s Smart Card IC Division – StarChip designs and develops chips aimed at simplifying the traditional semiconductor value chain. Their first “baby:” a 32-bit low-cost, low power-consumption and fast-customization SIM platform.

A new star in the semiconductor firmament? The creation of StarChip in January 09 by Lucien Brau, former director of Atmel’s Smart Cards IC division in Rousset,¹ and close collaborator of George Perlegos, Atmel’s emblematic founder, and by Yves Fusella, a Thales veteran specialized in DSP formerly product design manager in the Atmel Smart-card division and by Christian Dupuy, formerly Product Management Line Director with Atmel, nearly went unnoticed at the time. But that couldn’t last.

Recent evolutions in the semiconductor supply chain (local and global) and more specifically in the smart security segment have in fact illuminated its presence and its *raison d’être*. The acquisition of Atmel’s Microcontroller Solutions (SMS) business by France’s Inside Contactless,² and more importantly the Rousset plant by LFoundry, unveils on the European and global stage both a new fabless group that will be worth €200 million next year, not to mention the largest pure-play foundry in Europe, has shown in fact to what extent the traditional landscape of the semiconductor segment of the smart security industry has been transformed. And to what point the young StarChip has been the herald of these changes. The start-up in fact announced this shift as something like one of the first major pieces in a new puzzle, the final shape of which is known, but some of the pieces have not yet been made. And yet, they are today, in a steady and thoroughly exemplary effort of understanding and acting on the emerging tendencies - *l’air du temps* - confirming that the vision of StarChip’s founders *vis-à-vis* remodeling the semiconductor value chain has more than caught on today. “In the 80s, we saw testing and assembly subcontracted in Asia, then in the 90s people turned to external IPs that cropped up, while in the



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2000s, pure play foundries emerged and have not stopped growing since, just like fabless companies, and finally this year, we’re seeing the fablight model assert itself,” summarized CEO Brau. By positioning itself as ‘product provider’ and not, of course, as a ‘product manufacturer,’ StarChip has initiated the “service” of specification, design and industrialization integration, overall the core of product engineering, in a value chain where traditionally these services were ‘monetized’ in the margin of integrated device manufacturers (IDMs).

Estimated gain: somewhere around 20%

“For the OEM, here the card manufacturer, this margin is comprised of the transfer margin – from the wafer fab to the business unit or the fabless company, and the IDM’s margin which compensates the acquisition of the IP blocks, and its specification, design, industrialization, planning, testing and packaging services. In our model, this margin is reduced to the transfer margin (from the pure-play foundry, which is now a one-stop shop, directly to the OEM) and to the royalties paid to StarChip for its specification, design integration and industrialization

services,” explains Brau. Estimated gain: somewhere around 20%, or even more in some cases. StarChip will capitalize on its close proximity to the Rousset plant, now become LFoundry, for which agreements are already in place. Other agreements have been concluded with Grace Semiconductors (ShangHai), from which the first StarChip “products” should first ship. A secure 32-bit SIM Flash platform based on the Cortus

APS3S core (see page 18) and produced in 0.13 μm, for which “customer targets” are still confidential. The new model was built on three contract types: between StarChip and its customers (licensing agreement), between the foundry and StarChip (product agreement) and between the OEM and the foundry (Foundry agreement). StarChip, which today numbers some 15 employees, is thus organized in order to respond to all aspects of this model, with experts for the selection, specification and qualification of IPs, wafer fabs, back-ends and of course, developers for the chip integration, testing, application support, etc. ■

¹Lucien Brau grew Atmel’s smartcard business from \$3 million to \$240 million between 1999 and 2006. He was in charge of integrating Motorola’s smart card business, and worked very closely with George Perlegos, Atmel’s founder, who decided at that time to commit his company to the smartcard sector, by means of this acquisition. Subsequently, Atmel built up its flash and microcontroller expertise, showed off to full advantage in an ecosystem of “organized competition,” whose cycle will no doubt be completed with Samsung’s entry into the race.