

Chartered Semiconductor: power in partnerships

The once-struggling foundry is now on the leading edge of process technology.

By Barbara Jorgensen

It's unlikely the idiom "If you can't beat 'em, join 'em" was coined anywhere in the Far East, but Singapore-based Chartered Semiconductor Manufacturing Ltd has fully embraced the concept—to its benefit. The foundry's most recent financials were lackluster: In March, the company expected revenue for the first quarter of 2007 would decline approximately 5% from \$339.1 million in the fourth quarter of 2006. However, Chartered's long-term outlook is excellent, thanks to the powerful partnerships the company has forged.

Five years ago, Chartered was struggling, competitively lagging the market in process technology, and losing market share, says Chief Executive Officer Chia Song Hwee. "Chartered was mired in a position—whether they were last, I'm not certain—but they weren't even a fast follower," says Len Jelenik, principal analyst with iSuppli. "They were losing substantial ground in both technology and revenue."

"For us to close the gap, the only viable option was to partner with someone," says Chia. Although building and equipping a fab is expensive—analysts estimate a price tag of \$3 billion—process technology isn't cheap, either. At the 65-nm process node, development and ramping runs at approximately \$700 million to \$900 million; smaller geometries entail even higher costs. When Chartered was looking for a partner, IBM was looking for a foundry and a way to share development expenses. Chartered and IBM began an initial

collaboration in November 2002 to jointly develop advanced technology and provide cross-foundry manufacturing capacity to mutual customers. Samsung Semiconductor joined the initiative in March 2004.

By all accounts, the partnership is thriving. The resulting Common Platform Technology, developed with Samsung, is gaining traction across the electronics industry. Qualcomm signed on as a customer in 2006. The group will begin roll-

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ing out immersion lithography for 45-nm processes in the fourth quarter of 2007. IBM believes that this technology will carry silicon manufacturing to 22 nm and possibly beyond. But how has Chartered managed to maintain its interests amid heavy hitters, such as IBM and Samsung?

"Well, I will say it takes two hands to clap," says Chia of the initial alliance with IBM. Chartered knew it had to bring something to the party, and it had the ear of a wide range of foundry customers. "We can get customer input on their manufacturing requirements and share that in

a timely manner with our partners," he says. "I think the key point in building—and keeping—a relationship together is that both partners are able to benefit."

IBM wanted assurance that its customers would always have an adequate supply of products. Chartered needed to add incremental business. Both wanted to spread out the rising costs of process development. "IBM wanted to complement its foundry and ASIC strategy and we were a pure-play foundry," says Chia. "It worked well in terms of a win-win."

Keeping the customer front and center has gone a long way toward making the alliance work. "Focusing on the voice of the customer has enabled us to make sure we are all pulling in the same direction," Chia says. At the same time, Chartered has to keep an eye on its own agenda. Chia spends a lot of time on the Common Platform but has an employee to manage programs that are strategically significant to the foundry.

The members of the Common Platform Technology group have shown that collaborative partnerships can succeed, Jelenik says.

"By joining this alliance Chartered has not only catapulted its technology offering, but also demonstrated that an alliance can be executed strategically and successfully."



Chia Song Hwee
Chief Executive Officer
Chartered Semiconductor

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