



[« Back](#) | [Print](#)

Samsung Foundry Plans Face Trust Issues

David Lammers, News Editor -- Semiconductor International, 8/21/2007 10:27:00 AM

Tightening capacity at the major foundries could provide [Samsung Electronics Co.](#) (Seoul, South Korea) with an opportunity to expand its foundry business this year and next, analysts said. However, Samsung must convince potential customers that it can be trusted with their critical design IP.

Samsung currently processes ~15,000-16,000 300 mm foundry wafer per month at its S1 logic fab in Giheung, South Korea, which opened two years ago, said Ana Hunter, vice president of technology at Samsung's foundry operation. The S1 fab runs an equivalent number of wafers for Samsung's own ASSPs and ASICs, a 50:50 ratio that the company plans to maintain as it expands overall capacity at the logic fab to 45,000-50,000 wafers by the end of next year.

The additional ~10,000 wpm of available foundry wafers would add leading-edge process capacity at a time when [IC Insights](#) (Scottsdale, Ariz.) predicts that [some foundry customers will face shortages](#).

Joanne Itow, foundry analyst at [Semico Research](#) (Phoenix), said Samsung's position within the Common Platform alliance of IBM, Chartered Semiconductor and Samsung could change the foundry landscape. "Samsung and the Common Platform give customers a choice," she said. "It provides competition. It is not just TSMC and UMC anymore."

However, Samsung brings some recent baggage along, said Bill McClean, president of IC Insights. When [Apple Computer's](#) video iPod design team decided last year not to use an audio system-on-a-chip (SoC) from incumbent fabless company Portal Player, opting instead for a Samsung-designed part, that set off alarm bells at many fabless companies, McClean said.

"For some weeks after that decision, Samsung people were bragging about how they were the Portal Player killers. The fabless companies saw that as knocking on all of them," McClean said. "They were thinking, 'I'd have to hesitate before I would take my designs to Samsung.' That cloud is still hanging over Samsung's head." McClean noted that 70% of all foundry business comes from fabless semiconductor companies.

Hunter doesn't dodge the issue, saying that one of Samsung's biggest communication challenges is to tell potential foundry customers of Samsung's desire to be a foundry that can be trusted, and yet to compete in certain market segments with its own logic products.

To protect IP, Samsung has built firewalls specific to the foundry operation, which can be audited by customers at any time. And she points out that in the foundry industry, where people tend to know each other personally, any security breaches would be "fatal" to Samsung's foundry ambitions.

"Foundry really is strategically very important for us, and we are committed to protecting the foundry business model. At the same time, we are an IDM, and we are very open about the fact that we are committed to our own product line. What commitments we make, we keep. But our customers must know what our product lines are," Hunter said. "It's a trust relationship in foundry. For IDMs getting into the foundry space, I know there have been some issues. The history hasn't been all that good with other companies, and we must work on that as we establish trust."

A big IDM such as Samsung has attributes, Hunter said, including the ability to invest in leading-edge capacity, which she said pure-play foundries are finding difficult. Also, Samsung's IDM status allows it to bring packaging skills, layout and place-and-route capabilities, and failure analysis to its customers. As part of the Common Platform, Samsung has design-for-manufacturing (DFM) capabilities that smaller foundries lack, she added. "Our model [IDM and foundry] had issues in the past, but now there are a lot of pluses in our model," Hunter said.

With plans to spend ~\$6.7B on capital expenditures in 2007, according to IC Insights, Samsung continues to lead the industry in spending. "Our customers appreciate Samsung's ability to invest in high-volume manufacturing. Fabs are getting quite expensive, so for pure-play foundries it becomes more difficult to invest. That's our key strength," Hunter said.

Jim Hines, foundry analyst at [Gartner Dataquest](#), said he recently visited with Samsung's foundry team in Korea and came away impressed with

its serious intentions. However, Samsung faces the “stickiness” of customers who remain loyal to their existing foundries.

One vice president at a [Taiwan Semiconductor Manufacturing Co. Ltd.](#) (TSMC, Hsinchu, Taiwan) customer, who declined to be identified, said TSMC has rewarded his fabless company for using only TSMC by making sure that his fabless company gets all the wafers it needs, even during the tight times.

“TSMC has the opposite orientation of Samsung, because they spread their risk over a lot of little companies. Over the long haul, I think it will be the pure-play foundries that win,” the source said.

Hines said Samsung does face challenges: “Samsung realizes there is stickiness they must overcome. They have possibilities, but it will take some doing to really get established.”

One selling point is the Common Platform’s goal to allow customers to take a GDSII tape from one foundry to another, from IBM to Samsung, for example, without additional tweaking or extensive qualification. Right now, Hines said, that remains “the ideal case.”

Another plus for Samsung is technology. One Samsung foundry customer, [Qualcomm](#), has plans to be in commercial production at 45 nm design rules by the end of this year, making it no coincidence that Samsung also plans to bring up its 45 nm production capability toward the end of this year.

Hunter said, “We do have customers driving us to 45. Within Samsung, we are putting a lot of emphasis on bringing up the leading-edge technology pretty early. For 90 nm, we built our 300 mm fab a little bit late to be at the leading edge. At 45 nm, we expect to be at parity, and we are working hard at 32 nm. These are exciting times.”

[« Back](#) | [Print](#)

© 2008, Reed Business Information, a division of Reed Elsevier Inc. All Rights Reserved.

Advertisement

