TSMC sees tech challenge in 450mm wafer race

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(Reuters) - TSMC, the world's top contract chip maker, confirmed on Tuesday it is aiming to manufacture bigger silicon wafers that could lower the cost of chip production, but said technical difficulties will remain in the next five years.

The Taiwan government said on Monday it had approved a request by TSMC to build a new 450 millimeter wafer factory in the central part of the island, with the investment amount valued at $8-10 billion.

Analysts say bigger wafers could dramatically lower chip production costs, with large companies gearing up to make wafers 450 mm in diameter, up from 300 mm, the largest size at present.

Intel has said it plans to invest up to $8 billion to expand high-tech manufacturing facilities in Arizona and build a new site in Oregon, which would be able to produce 450mm wafers.

TSMC Chairman Morris Chang told reporters he expected other rivals such as Samsung were also working on developing a 450mm, or 18 inch, wafer.

"18-inch is something we have to do, but the technology is not ready yet ... if we can overcome it, it'll be a big breakthrough," he said after the company's annual general meeting.

Chang gave no timeframe for the manufacture of 450mm wafers, and said he expected technical difficulties to last the next five years.

TSMC raised its 2012 capital spending to a record high in April as it eyes record investments and big acquisitions, along with other Asian chipmakers, in a bid to win a bigger share of the booming mobile market.

Seperately, Chang said on Tuesday he expected TSMC would gain "lots of" business over the next five years from Japan's Renesas Electronics to make chips on a contract manufacturing basis.

Renesas said last month it will outsource its top-end chips to TSMC in a bid to overcome cut-throat global competition.

Earlier this year, Chang forecast 2 percent growth in the semiconductor industry for 2012 from last year.

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