

ATIC Gets Ready for Chip Challenge

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On the wall of Ibrahim Ajami's office in Abu Dhabi, a web of geometric patterns cut into what looks like a bronze-gold disc is set in a dark wood frame. But, rather than a piece of modern art or a vinyl record, the object is a wafer, a slice of pure silicon semiconductor material worth about \$6,000, which is at the centre of Mr Ajami's ambitions.

A pristine wafer, made up of integrated circuits, is the end product of the semi-conductor industry. A 300 millimetre wafer may contain 200 dies and each die may contain up to 2,000m transistors.

Produced in conditions 100,000 times cleaner than a medical operating theatre (see picture) by tools that cost up to \$600m apiece, each wafer takes about three months to manufacture.

Mr Ajami is chief executive of Abu Dhabi's Advanced Technology Investment Company, or ATIC. If anything illustrates the scale of Abu Dhabi's high-tech manufacturing ambitions it is the fact that ATIC made not one, but two multibillion-dollar acquisitions last year. It thereby joined a select band of companies with the scale and the pockets to compete in the cutting-edge contract chip industry.

ATIC invested \$1.4bn in a partnership with Advanced Micro Devices of the US to spin off its manufacturing arm into a new company called GLOBALFOUNDRIES. AMD had suffered nine consecutive quarters of losses and rising debts as it tried to keep up with Intel, the world's biggest chipmaker.

Then, in September, ATIC paid \$1.8bn for a majority stake in Chartered Semiconductor of Singapore. Contract chipmakers make wafers to the designs of other manufacturers and Chartered was the world's third-biggest. Including debt and convertible preference shares, the deal was worth about \$3.9bn.

"For the next three years we're going to invest whatever it takes to build this company up," Mr Ajami. "I want to make sure that GLOBALFOUNDRIES grows faster than any other global foundry [chip manufacturing] company in the world."

Mr Ajami's financial targets are simply revenues – "top line in year one and top line in year two", as he puts it.

"The core theme of the Chartered acquisition was really customers, and it is really the driving force behind that acquisition," he says.

Analysts see the Chartered deal as a move to ensure that GLOBALFOUNDRIES has access to customers when new capacity being built in facilities in New York and Dresden comes on stream. The deal also gives ATIC exposure to growth in Asia, which GLOBALFOUNDRIES lacked given it had factories only in Europe and the US, say analysts.

ATIC itself was spun out of Mubadala, Abu Dhabi's sovereign investment vehicle, in 2008. Mubadala retains a 19.3 per cent stake in AMD.

Abu Dhabi's rulers have given a team of technocrats the task of diversifying the emirate's revenues away from oil and gas. Aerospace, renewables and high-tech engineering, among others, have been identified as industries of the future that will provide skilled, well-paid jobs for UAE nationals in a "knowledge economy".

Every month, Mr Ajami flies to Singapore, Dresden, New York and San Francisco to visit ATIC subsidiaries. "It's tough...We have conference calls late at night a lot and we have conference calls early in the morning. It's a truly global company. It's the biggest management challenge."

It is not just geography that is a problem. Temasek, the Singapore sovereign wealth fund from which ATIC bought its stake, spent 22 years trying to make money out of Chartered.

Analysts say Singapore's disposal of its shares was a recognition that it had failed to build a world-class company. Semiconductors are all about the scale needed to cover research and development costs and huge investment in manufacturing facilities.

Chinese companies have tried to enter the business, but failed to make money. Only Taiwan, home to United Microelectronics Corporation and Taiwan Semiconductor Manufacturing International Company, has succeeded. TSMC, which has a market share of 49 per cent according to iSuppli, is the clear industry leader and plans capital expenditure of \$5bn this year alone.

ATIC is responding by building a \$4.5bn manufacturing facility in Saratoga, New York, which is due to be finished in 2012. It is expanding a similar facility in Dresden from 25,000 wafers a month to 60,000, at a cost of \$3bn. It is also expanding its plants in Singapore. Managers expect that, with the ATIC investments, GLOBALFOUNDRIES will roughly double its capacity in 300mm wafer production.

But even TSMC has said that it is worried about falling margins.

"If you are well positioned in the market place then actually you can generate the kind of returns [you want]. The problem is only very few companies do it," says Mr Ajami.

"I think they [TSMC] are going to be around and they're going to do very well, but I think the market is ready for another significant player. I think customers have indicated that very clearly to us," Mr Ajami says. "It's not a volume game, it's really a whole evolving dynamic between capacity and prices and technology leadership."