Qualcomm expands collaboration with China's semiconductor industry

By **HU MEIDONG** and **SUN LI** in Xiamen, Fujian province

Derek Aberle, president of Qualcomm, says the company will bring business to a joint venture plant in Xiamen. HU MEIDONG / CHINA DAILY

Qualcomm, a world leader in wireless technologies and wireless chipsets, will continue to build its cooperation with the semiconductor industry in China and build up the semiconductor ecosystem in China.

As the world's leading semiconductor company with outsourced fabrication, Qualcomm Inc has been engaged in the semiconductor industry in China for several years. On Thursday, the President of Qualcomm, Derek Aberle, was one of the dignitaries in attendance at a ceremony to mark breaking ground for a 12-inch wafer plant in Xiamen, Fujian province.

The joint venture between the United Microelectronics Corporation, Xiamen city government, and Fujian Electronics and Information Group, will focus on 40 nanometer and 50nm technologies. Aberle said Qualcomm will help get the plant up and running as soon as possible.

"The fabrication will begin with the 40nm and 50nm parts, which aligns well with what we see as the biggest drivers of growth in the semiconductor industry over the next five to 10 years: non-handset connected devices and the opportunities arising from the Internet of Things," Aberle said. Qualcomm has already established a successful fab collaboration in China with Semiconductor Manufacturing International Corporation. Qualcomm has been the largest customer of SMIC for some time, and it pushed the collaboration in order to support SMIC on the fabrication of 28nm process technology. Produced in Shanghai last year, it was the first 28nm developed in China, Aberle said.

"The fabricators need the process technology, but they also need to have a lead customer that has the experience, the know-how and the skill to actually mature the technology, and get the yields up so they can have a profitable business," Aberle said.

The company aims to focus on leading node technology, Aberle said. "The 28nm is leading node. While for the Internet of Things sector, the 40nm in Xiamen is leading node for that particular application," Aberle said. Although the way Qualcomm expects to be engaged in China is very similar with what the company has done with other fabricators in other places in the world, Aberle does see definite benefits to being in China. "The market is so large, and there is a lot of consumption and manufacturing within China," Aberle said, adding, "Qualcomm will bring business into the plant in Xiamen."

Qualcomm is a major client of UMC and the new plant in Fujian province is the latest fruit of their long-established partnership.

Xiamen serves as an ideal location for UMC as the city has very strong infrastructure, and there is a lot of good support from the local and the provincial government for this particular project, Aberle said.

He added another benefit of choosing Xiamen is its proximity to Taiwan, which means UMC would be able to manage operations effectively and efficiently.

"The proximity is a benefit for the integrated circuit industry generally. It's good for IC companies to have manufacturing capacity available to them," Aberle said.

"We're basically helping the fabs develop their process and the technology. Once its done, its not just for Qualcomm, they will have process in the fab here that could serve any semiconductor company, including local ones.. That will be one of the key engines of growth for other semiconductor companies in the area that need capacity. So it's both making our own chips here and technology contribution to help them get their technology into the market," Aberle said.

The company is considering moving some other pieces of the supply chain to China, such as testing facilities.

A ceremony to mark breaking ground for a foundry, a joint venture between the United Microelectronics Corporation, Xiamen city government, and FuJian Electronics and Information Group, was held in Xiamen, Fujian province, on Thursday. LI NA / FOR CHINA DAILY

Eying new peaks of performance

Su Shulin (right), governor of Fujian province, meets with Derek Aberle, president of Qualcomm, in Xiamen on Wednesday. HU MEIDONG / CHINA DAILY

Support vital spark for success

By **HU MEIDONG** and **LIU XIAOYU** in Xiamen, Fujian province

Xiamen in East China's Fujian province is making great efforts to create a favorable environment for high-tech companies as it looks to upgrade its industry.

As one of the major hi-tech projects this year, the United Microelectronics Corp, a leading semiconductor manufacturer from Taiwan, is bringing its 12-inch wafer belt-lines to Xiamen National Torch Hi-Tech development zone.

"We feel indebted for all the help and support the local authority has given us, with such an investment-friendly environment and favorable polices, I have faith in this project, as well as the potential of further cooperation," said Victor Yu, president of United Semiconductor Co. Ltd, the subsidiary of UMC in Xiamen.

According to Yu, the investment in the plant was 38.52 billion yuan ($6.2 biliion). The factory will have a maximum production capacity of 50,000 units per month and a test run is planned for 2016.

Xiamen is working on a series of innovative measures to develop the high-end mobile terminal industries, which it has identified as a growth industry, and Xiamen National Torch Hi-Tech Development Zone, has been established to attract and support both investments and talents.

Founded in 1990, the zone is one of the major national high-tech industrial hubs approved by the Chinese State Council. Companies in the zone produce tablet monitors, communication equipment, LEDs and integrated circuits, among other things.

"We try to fully understand the demands of our clients and assist them in whatever way we can. We have formed a special panel of professional advisers and experts to help clients solve any problems they encounter." said Sui Guoyu, the director of Xiamen Torch Hi-tech Industrial Development Zone Investment Service Center.

Sui added that as well as the support it provides, the zone is embarking on a series of talent schemes. So far, the zone has attracted 500 overseas returnees, 61 industry-leading talents and five experts from Taiwan.

"My company had a branch in Shanghai for 20 years, and we share a close relationship with UMC in Taiwan. I think expanding to Xiamen makes good sense because of the close proximity between the two and ease of travel. It is also a good opportunity to take advantage of the talent produced by the universities here. The business should be very profitable and successful," said Terry W. Russell, vice-president Asia Operations, Toppan Photomasks Company Ltd, one of the major suppliers to UMC.

319
Total number of companies located in the Torch Hi-Tech Zone, about 35 percent of the companies in Xiamen

9
Projects from the Torch Hi-Tech Zone included in the National New Products Program of the Year in 2014

3
National-level incubators are lcoated in the zone, and all of them have become pilot zones for a national intellectual property protection project. Now the zone also has three national-level enterprise technology centers, 10 provincial-level ones and 28 municipal-level ones

Zone carries torch in race for innovative growth

By **SU ZHOU**
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The development engines for the Xiamen National Torch Hi-Tech Industry Development Zone, or Torch Hi-Tech Zone as it is more simply known, are talent, technology and innovation.

Unless people see it with their own eyes, they find it hard to believe that a solar cell can be made by printing. Yet Xiamen Weihua Solar Ltd is doing just that. On a pilot production line solar batteries are "printed out" in different colors on a printing machine, just like newspaper.

The company has also made a breakthrough in the Incident Photon-to-Electron Conversion Efficiency, or IPCE, of perovskite solar cells, which include an absorber commonly made of a hybrid organic-inorganic material as the active layer.

Fan Bin, the general manager of the company, who graduated from China's prestigious Tsinghua University, said the company's success can be credited to the Torch Hi-Tech Zone's support, financial aid and guidance.

Weihua is just one of the many innovation-producing tech companies based in the zone.

To accelerate the construction of an innovation base and attract more talent, the zone has been building more R&D centers and incubators and encouraging and supporting companies and industries to build their own research institutions.

For instance, a national LED application production quality supervision and inspection center has been established in the zone.

"In the past, it was basically our job to create such platforms and attract talent, now we are encouraging companies to do so," said one member of the administration commission of Torch High-Tech Zone.

The zone has not only contributed to its clients' development it has also facilitated the upgrading of industry chains. The Tsinghua Unigroup, for example, not only brought more than 30 unicircuit companies and their core businesses to the zone, it is also introducing IT research and development companies and other companies with links to Tsinghua University.

Zhao Weiguo, chairman and president of Tsinghua Unigroup, said the development of an industry chain can be boosted by 50 yuan ($8) by a chip costing just 1 yuan to produce.

1% for 40%

With about 1 one percent of Xiamen's area, the Torch Hi-Tech Zone creates more than 40 percent of the city's total industrial output and added value.

The high-tech innovation in the zone is laying the foundation for Xiamen to build a new industrial chain worth hundreds of billion yuan.

To inspire innovation and invention, the Torch High-Tech Zone has enhanced its efforts to protect companies' intellectual property by introducing support polices. These have yielded great results. According to official data, from 2008 to 2014, the number of invention patents filed by companies within the zone grew nearly 12-fold, while the number of new practical patents increased more than 20-fold.

In recent years, the Torch High-Tech Zone has been trying to act as a bridge between industry, research institutes and universities.

The zone has developed strong cooperation with many prestigious Chinese universities, including Peking University and Tsinghua University, as well as the local universities.

Take Tsinghua University, for example; Tsinghua has set up a startup base and a specific support program. Now the base in Xiamen has five companies. And more outstanding startup programs are expected to settle in the zone with the launch of a new platform that will seek to transfer innovative ideas to industry.

On November 2014, Xiamen municipal government, and Tsinghua University and alumni of Tsinghua University in Hsingchu of Taiwan signed an agreement to jointly build a research institute. The aim is for the institute to be a world-class innovation center and high-tech platform, and also a talent cultivator.

After the institute is established, the Torch High-Tech Zone will be a major force industrializing its research results. Huang Wenhui, head of the administration commission of the zone, said the institute will benefit the development of the zone and help drive the economic restructuring of Xiamen.

The second phase of the Software Park at the Xiamen National Torch Hi-Tech Industry Development Zone, or Torch Hi-Tech Zone for short. PROVIDED TO CHINA DAILY