

**FEATURE**

# AIMING TO BE GLOBAL NO. 1: The Challenge of the New Miyagi Plant



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Tokyo Electron has invested ¥25 billion in the construction of a plant in Taiwa, a town close to Sendai City in Miyagi Prefecture, that can conduct all the processes for plasma etch systems from development to mass production. Etch systems are a core product for the Company and also for the industry. The Great East Japan Earthquake delayed construction, but the buildings for the R&D and administrative functions will become operational in July, and the building for the production line will start operations in November.

## The Goal of the Plant is to Become No. 1 in the World

### First, please tell us why you decided to build this new plant.

Simply stated, it is to “become the world’s top semiconductor production equipment supplier.” More precisely, the major goal is to enhance Tokyo Electron’s core technological strength in order to enable the Company to continue to provide high-value, high-quality products to our customers. Since the new plant will consolidate the processes for etch systems from development to mass production, it will enable us to thoroughly eliminate inefficiency in terms of time, communication, and costs and thereby reduce product development time. We will also be able to incorporate

quality and manufacturing processes at the design and development phase, and achieve increases in productivity.

From the perspective of manufacturing, creating a new production method will allow us to reduce manufacturing time and introduce more flexibility into production. In order to become the world No.1, we will need to hire superior engineers. Miyagi is an ideal location from the point of view of recruiting people. In terms of R&D, we are also thinking about the potential for various types of industry-academia partnerships, such as collaborations and personnel exchanges with colleges of technology and universities in the Tohoku region, including Tohoku University. For Tokyo Electron, which can be described as a technology company par excellence, this will have enormous benefits.



**Plasma etch system, Tactras™ – Strong global reputation based on exceptional productivity and high reliability.**

### Are you making this huge investment into the construction of this new plant because you project there will be sufficient growth in the etch system market to justify it?

The current scale of this market is approximately U.S.\$5 billion. Amid the ongoing advancement of semiconductor scaling

technology, the etch system market, which is very attractive in the wafer fab equipment industry, has substantial growth potential. At the same time, we must continue to supply top-quality products to our customers in this attractive market. We anticipate

a doubling of our sales within several years as a result. This is an achievable goal if we enhance our efficiency, and continue to supply our customers in a timely manner with products based on high-value technology.

## Unwavering Conviction in Maintaining Production in Japan

**At a time when many Japanese companies are relocating their production bases abroad, why do you remain committed to keeping production in Japan?**

In order to win in a market that is characterized by keen competition through technological innovation, what is most important is to achieve differentiation in product development. To this end, we need to differentiate ourselves through our technology and put products on the market more swiftly than before. In particular, we must be able to launch development projects early on, and subsequently achieve commercialization rapidly. Further, we must start to consider quality and costs right from the development phase. We need to fully refine our core technologies, taking advantage of the insistence on a level of quality that Japan can provide. With these factors in mind, I believe our optimal choice is to carry out production in Japan.

With regard to production, by fully implementing visualization and the elimination of inefficiency, and by establishing quality assurance in our own processes (that is, by ensuring that no defective products move on to the next process), we can reduce costs and maximize profits. In an environment where manufacturing is shifting to Asia, we must achieve success in meeting Tokyo Electron's big challenge to "win in Asia."

**Is it true that the new plant is also very advanced in terms of being environmentally friendly?**

We are committed to actively working on environmental issues at the new plant. One of the environmental commitments we made in May 2008 was "to reduce the impact of our business and transportation activities on the environment by 50%, by 2015, compared to the 2007 levels." In order to live up to that pledge, we will adopt a 1MW solar power generation system and use LED lighting where possible. In addition, we will make emissions from the new plant as clean as possible by recycling nitrogen and by further cutting the amount of greenhouse gas emissions in the product development and evaluation processes. Regarding the transportation of materials, the idea is to consolidate, to the fullest extent possible, the handling of materials by building relay depots that will work as hubs, working in cooperation with our suppliers around the country. We are considering how to restructure the supply chain in this way, taking advantage of the opportunity of the establishment of the new plant.



Tokyo Electron Miyagi's new manufacturing base for plasma etch systems. Targets further strengthening of operations through unification of R&D and manufacturing functions. As part of the Company's environmental commitments, a solar power generation system is to be installed on the roof of the facility.

