

Market Review with President Tetsuro Higashi



Overall, how would you describe the fiscal year ended March 2002?

The semiconductor production equipment industry experienced the worst down cycle since this business began. We have gone through several downward swings in the past, but none have been as severe as this current down cycle in scale and speed. In response, we initiated a variety of measures to try and minimize its negative impact, but still it was the most difficult year the Company has experienced. In fact, it has made us realize that we have to change to a more responsive and efficient organization.

Despite the difficult conditions throughout the year, we were successful in launching several key products that were in the market spotlight. Furthermore, TEL was recognized as an industry leader in 300mm equipment, which chipmakers are in the process of shifting to. The Company also made good progress in developing next generation technologies.

In your opinion, what changes are going on in the industry?

Looking at the major trends, the semiconductor industry is moving from a PC-centric age to a pervasive age in product applications. As part of this trend, DRAMs and other chips are becoming much cheaper and lifecycles of chips are becoming much shorter, reflecting the shorter lifecycles of the end products they are used in. This trend will have a stronger impact as we leave the PC-centric age and a wide array of communications-enabled information devices, such as personal digital electronics products and digital household appliances enter the market.

The significance of this trend for semiconductor production equipment suppliers is that we are being asked to supply the semiconductor industry with equipment of the highest technology and quality that can produce chips at low cost. Moreover, to cope with shortened lifecycles, chipmakers want equipment to ramp-up quickly and to flexibly adapt to markets. In short, our customers are going to be making much harsher demands on us regarding tool specifications and product capability.

In light of such trends, what advantages do you have that can be leveraged in your business?

Would you give us some of the highlights from your product development programs?

Another major trend among the semiconductor industries of Japan, Europe and the United States is a significant change in production strategies. Companies are increasingly outsourcing the production of products that are not considered core business to foundries in Taiwan and other Asian areas. This trend can be viewed as simply progressive specialization within the industry, but it is going to affect the role of production equipment suppliers like us to some extent. We are being required to support this strategy with our process development, process integration, and processes control capabilities, moving us even closer to the boundary between equipment manufacturers and chipmakers.

The first points that come to mind are our world class technologies and powerful marketing capabilities that anticipate the needs of our customers around the world. Marketing is not the sole domain of our marketing group, our sales and field engineering groups cooperate in a unified effort where everyone has a role to play. Developing the customer needs recognized through this process into individual products has led to the creation of our current extensive and highly competitive product lines.

Process integration capabilities will be key to the future success for semiconductor production equipment suppliers. Such capabilities are best realized if one has a broad line up of products, similar to those of TEL. Process integration is a core element within our products providing a high centripetal force. We have a high degree of flexibility that can incorporate the products of other suppliers providing an optimal solution to our customers. In addition, our Process Technology Center in Yamanashi Prefecture has drawn the attention of global customers as one of the most-advanced application laboratories in the industry. This facility combined with a series of key equipment makes process integration possible, and we have established a competence that provides powerful support for the product differentiation strategies for each of our customers.

Preparations have been completed for the shift to 300mm equipment in almost all product categories, subsequently our market share of this equipment will exceed that for 200mm equipment. One product that is close to volume production is the plasma etch system *Telius*TM. Compared with the 200mm model, the 300mm model is more compact and employs a unique platform featuring a parallel transferring system. Because of its high productivity, *Telius*TM has made a sensational debut in the market.

Another highly innovative new product is the high-speed thermal processing system *TELFORMULA*TM. Featuring a flexible batch system that can accommodate one to 25 wafers, this equipment is designed to be scalable and adaptable to changes in the volume and variety of products. *TELFORMULA*TM has drawn significant attention from the market because it provides for the current need in the market by delivering higher productivity through shortened production cycle time. This is the optimal tool for use in the manufacture of system on chip (SOC) devices, demand for which is increasing with the spread of digital consumer appliances in the respective markets.

In addition, we have recently launched a plasma nitridation system that creates

Will you tell us more about the products you are currently developing for the future?

high-quality nitrated gate dielectric films. The system has been very well received by flash memory and logic chip customers, even though it was launched very recently. Its extensibility to other applications makes this system a highly promising product for new market development.

Among the BEOL (interconnect) processes, for which equipment sales are expected to grow, the intermetal dielectric film formation is a key process within this large latent market. Taking advantage of our specialty technologies, we have developed an SOD coater to address this market. We expect the market for this SOD coater to show real expansion from the 100-nanometer generation. Additionally, we are working with customers and materials suppliers to investigate new breakthroughs in this field.

We are also strengthening our advanced process control (APC) technologies. We are in the midst of developing products incorporating Optical Digital Profilometry™, a technology of the recently acquired Timbre Technologies, into our own products and evaluation by our customers is underway. Of course, the strategy that we have for APC goes much further—we have just moved to the starting line. However, I think we have taken the first major step into a field that will be an important factor in differentiating semiconductor production equipment makers in the future.

Work on 70-nanometer and below processes is ongoing. We are researching and developing ways to put supercritical cleaning technologies from Supercritical Systems, a company we acquired two years ago, to practical use. Furthermore, through a business alliance with a key stepper manufacturer, we have begun developing lithography processes utilizing F2 excimer lasers.

If the use of digital consumer products becomes as wide spread a market as that of personal computers, the increased demand for semiconductors and new semiconductor production equipment will result in the Company having to supply its customers with innovative products and technologies at lower costs. To rephrase this, for TEL to achieve higher profits, it will be absolutely necessary for us to create added value through our technological differentiation at a highly competitive price and the lowest cost.

I believe that the semiconductor production equipment market will continue to have an extremely bright future supported by a huge demand for semiconductors and a need for advanced technology. There also is no doubt in my mind that the industry will again experience cyclical downswings of the market, regardless of the magnitude. For that reason, I am committed to introducing reforms to build operations that can earn profits and sustain the highest level of R&D even under poor market conditions.

To address such market demands, we are introducing an IT-aided production system aimed at raising production efficiency. This process will take another two years to complete at our domestic factories. When completed, however, we will have a structure that can match the maximum amount of demand during times of expansion and

What are the issues facing TEL?

What direction does TEL intend to take from a global perspective?

can minimize the impact of contractions in the market. It will be able to maximize our profitability under either good or bad market conditions. To facilitate our transition to a highly profitability structure, we implemented organization changes in June. On the administrative side, our focus will be on achieving operational efficiency through a small but skillful organization. In addition, we plan to optimize our material sourcing on a global basis. Subsequently, we are stepping up our activity to target cost reductions through the maximization of productivity and production efficiency.

In April of this year, we established a service support base in Shanghai, beginning direct operations in China. We took this action in consideration of the importance of China as a growth market. From this operation, we intend to provide the highest quality technical support services to our customers in China. The fact that TEL has major R&D activity in nearby Japan makes TEL extremely attractive to customers in China and Asian countries, positioning TEL as a valuable supplier.

In terms of sales and services, we have already completed the expansion of our network and are recognized as a global supplier. Now we are seeking out regional resources with competitive advantages around the world to merge them with our own corporate resources. Our software-related R&D bases in the United States, a leader in global software technology, are a good example of our strategy. Deriving new competitive power from global regional strengths, we plan to reinforce our unique identity throughout the world.

The FPD production equipment market seems brisk, doesn't it?

Yes, I expect demand to remain robust throughout the entire year in 2002. Because the FPD production equipment market basically demonstrates the same cyclical nature as semiconductor production equipment market, it is possible that the market may soften temporarily, but in the medium- to long-term it is certain that this market will grow substantially.

One of the reasons for the current boom is that demand for LCD screens for PC monitors is growing substantially. Another trend is the progressive transition by manu-

facturers to larger glass panels, the substrate for LCD screens. As we have been quick to respond to this market trend, shipments of our FPD production equipment for larger glass panels are steadily growing. Moreover, our equipment is also adaptable for organic electroluminescent (EL) display manufacture. TEL's products account for a major global share of the FPD production equipment in the areas of FPD coater/developer and etch/ash systems. We intend to take full advantage of the business opportunities arising from this emerging market.

