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## Polyplastics – A pinnacle of success

Celanese made its first significant investment into Asia in 1962 when it founded Polyplastics – a joint venture with the Japanese company Daicel Chemical Industries. Polyplastics focused on marketing to begin with, but by 1968, it was already manufacturing the polymer polyacetal. Thanks to the pragmatic and hands-off approach of its shareholders, the company has since developed into one of the oldest and most successful joint ventures in Japan.

“At first, Japan was very much a Far Eastern culture and extremely alien to Celanese. They could not understand the Japanese mentality and management style, and so they entrusted us with everything,” says Yasumasa Komura, CEO of Polyplastics. He says the relationship between Polyplastics and Celanese/Ticona has had three elements - the relationship between shareholder and shareholding, the relationship between licensor and licensee, and finally as partners in marketing development. “In all three roles, Celanese/Ticona has played an important part in our success. If Ticona had only been interested in the cash return on investment, we would not have been in a position to accumulate funds and to invest in plant, technology and human resources. There is more than one kind of dividend,” says Komura.

### Cooperation reaps rewards

Polyplastics was founded on the basis of polyacetal technology licensed from Celanese. Since then, the engineering resins businesses of Celanese, Ticona and Polyplastics have conducted

joint development of technology pertaining to the composition, process engineering, and application development of polyacetal products, and they have mutually benefited from the developments through a reciprocal licensing arrangement. Polyplastics markets its polyacetal products under the brand name Duracon® and distributes Ticona’s Celcon® branded polyacetal products.

Similarly, Polyplastics manufactures and markets liquid crystal polymers under the brandname Vectra®. The technology and brandname were originally licensed to Polyplastics by Ticona in the mid-1980s and have been co-developed over the years through a joint development arrangement between Ticona and Polyplastics. Polyplastics also manufactures PBT polyester engineering resins in a joint venture with Teijin called WinTech, which is majority owned by Polyplastics. Polyester products are marketed under the brandname Duranex®, and polyphenylene sulfide, which the company purchases from Kureha Chemical Industry Co., Ltd., under the brand name Fortron®.

1. Producing polymers against the magical backdrop of Japan's highest mountain Mt. Fuji.

2. Located on the Pacific Ocean, Fuji City is a major hub for chemicals production with rail, road and sea transport facilities.

3. Vectra is produced under license from Ticona - here it awaits transport to customers.

4. With 100,000 metric tons of capacity, the POM plant in Fuji City is the biggest in the world.

The collaboration between Ticona and Polyplastics through the joint development and distribution arrangements gives both companies a competitive advantage in servicing global customers – such as automotive and electronics companies – who have development and production facilities in multiple regions of the world.

“The close links between the two companies have been particularly useful in the case of western transplants – western companies which are shifting their production base to Asia. Most of these are in the automotive industry and the first information and contact details often come from Ticona,” says Katsuhiko Takahashi, Managing Director and General Manager of the Sales and Marketing Division.

Following its foundation, Polyplastics quickly established itself as a premier supplier of engineering polymers in Japan and now achieves annual sales of around € 500 million with its 1,400 employees.

### Current and future production plants

Polyplastics' Japanese production plant is located in Fuji City. Nestled between Mount Fuji on the one side and the Pacific Ocean on the other, it has grown to become the biggest POM plant in the world with a production capacity of 100,000 metric tons a year. It also has a compounding facility to produce Fortron®, and manufactures PBT and Vectra®. As a company, Polyplastics has closely tracked economic developments in Asia and has always been on the look-out for growth opportunities. Since it was founded, it has expanded its Fuji plant several times and constructed a new 20,000 ton POM plant in Taiwan and a 30,000 ton facility in Malaysia. Vigorous economic activity in China is currently enabling Polyplastics to optimize production rates at its facilities to satisfy strong demand for polyacetal,

and this is offsetting current weakness in Japan. But with demand in China growing at around 10% a year and having already reached 100,000 tons a year, there is obvious need for expansion.

Polyplastics is taking full advantage of this opportunity and will be the lead company in a venture that includes Mitsubishi Gas Chemical Company Inc., Korea Engineering Plastics Co. Ltd (see box) and Ticona to construct a world-scale 60,000 metric ton polyacetal facility in Nantong, near Shanghai. Engineering and site preparation have commenced, and groundbreaking is scheduled for the second quarter of 2003. The plant is expected to start operations in the second quarter of 2005.

“The challenges of globalization and the difficult economic situation in Japan made us change our mind-set from a limited to a global point of view. Ticona played an important role in connecting Polyplastics, KEP and Mitsubishi Gas Chemical. Without Ticona, we would not have changed our mind-set and would not have been able to spread the risk of our investment in China,” says Komura. Still, the risks of the venture would appear to be limited at the moment. Motoshi Sawada, Managing Director and General Manager of the Production Division, reckons growth in POM demand will continue to rise at current rates at least until 2008, when the Olympic Games will be held in China.

### Adapting to change in the Asian business environment

As the POM product continues to mature, more focus is being applied to technical expertise to develop specialty acetals which meet new market needs. In order to achieve this, Polyplastics has redeployed the research and development facilities at its Fuji plant, and has recently launched a new type of polyacetal resin. These new specialty





5. Yasumasa Komura, President and CEO of Polyplastics, directs operations from his office in downtown Tokyo.

polymer products, which have additional strength over traditional co-polymer polyacetals, are in development and are targeted for use in new markets as well as the traditional markets of automobiles, electrical and electronic appliances, office machinery and industrial equipment.

Another consequence of changing market dynamics in Japan is that the so-called Technical Service Centers – where Polyplastics and its customers can work on the development of new applications – are looking to charge their customers for their services. This will begin with Computer Aided Engineering (CAE). “Our CAE capability is better than that of most of our customers, so we can reasonably ask for compensation,” says Managing Director and General Manager of the R&D division Tsuneyoshi Okada.

The company’s strategy is to raise the performance of the centers further by improving accuracy through new simulation methods and by optimizing material data. In addition, a new technical support web-site has been launched which has already been joined by around 1,000 engineers. “Young engineers, in particular, are different than their older counterparts. For them, speed is of the essence and more important than a face-to-face meeting,” says Okada. The change in the Polyplastics mind-set is also

influencing the way the company does business on its home ground. In the past, Polyplastics conducted its sales virtually exclusively through Japanese trading companies, and contact with customers was with support from the Technical Service Centers. This situation is changing, and although currently around 80 % of business is still being carried out via trading companies, this percentage is diminishing. “Japan is changing a bit. It’s rather a balancing act, but we are adopting some U.S. business practices and more and more Japanese managers are being educated there,” says Komura. But the cornerstone of Japanese business practices – customer relationship management – is alive and kicking. Like many of his colleagues, the aficionado of traditional Japanese Noh and Kabuki dramatic art is on the golf course with customers every weekend. ◀