

Eaton Semiconductor Equipment a Global Success

those of Sumitomo Eaton Nova Corporation (SEN), a 50-50 joint venture with Japan's Sumitomo Heavy Industries, Ltd.

A major global growth opportunity for Eaton's semiconductor equipment is the application of ion implantation equipment to manufacture flat panel displays. Eaton's new flat panel ion implanter allows manufacturers to use new thin film transistor processes to produce higher performance liquid crystal displays (like those used in laptop computers) at lower cost. Eaton's flat panel sales are expected to exceed \$100 million by the year 2001.

Eaton is also developing a joint venture in Korea for automotive controls, including convenience switches, climate controls and actuators for Korean automakers, such as Hyundai, Daewoo and Kia. Prospects are good that these companies will expand distribution of these components to automotive transplants in emerging economies such as India and Poland. During 1997, Eaton also plans to open a new facility to supply limited slip differentials to Korean automakers.

Eaton's IKU unit, headquartered in the Netherlands, is the global leader in mirror actuators. IKU mirror actuators are assembled by importers in Brazil and Korea, and the unit has sales representatives in China, Russia and Taiwan who are opening up new markets for electric mirror actuation.

shown below two wafers) on the NV-8250 medium current implanters holds the wafer on the platen by an electrostatic force, eliminating the need for wafer clamps. This permits full exposure of the wafer to the beam, increasing yield and reducing contamination. The NV6072 flat panel ion implanter (middle left) is designed to enable lower-cost thin film transistor manufacturing processes to produce high-performance active matrix, liquid crystal displays.

Eaton ion implanters are used by most of the world's semiconductor manufacturers to make semiconductor chips (inset). The extended-life ion source (behind and below inset) in Eaton's ion implanters may last up to twice as long as traditional ion sources, increasing machine uptime and reducing customer operating costs. The robotic arm (bottom) is designed to position wafers in ion implanters. The new electrostatic clamp (upper left,

Eaton power plant control systems are used in Korea and other countries. Utilizing the leading-edge technology of a powerful 32-bit microprocessor for ultra-fast response, the system controls any number of functions from valve operation to monitoring day-to-day plant performance, and is currently being marketed to several additional countries.

India—an emerging giant With a population of nearly a billion, India has massive infrastructure requirements, but its markets are developing slowly. Average per capita income remains low, about half that of China. Even so, a sizable middle class is emerging—roughly 20 percent of income earners generate 40 percent of national GDP—and this group is fueling demand for a wide variety of products. GDP growth in 1996 is estimated to have exceeded 6 percent.

For many years, an Eaton joint venture, Axles India, Ltd., has manufactured truck axle housings in India. Eaton is also considering several additional joint ventures.