

---

---

# GLOBAL ELECTRONICS INFORMATION NEWSLETTER

Issue No. 40

US ISSN 0739-0416

February, 1984

---

---

## DELEGATIONS

At least since 1971, when a delegation of Malaysian officials visited Silicon Valley, domestic regions and foreign countries have regularly sent teams of bureaucrats and technical experts to the Valley in search of high-tech investment. Lately, a new strategy has emerged. They all come with promises of subsidies and cooperation. To win additional attention, some foreign development agencies have brought along their chiefs of state. In the last few weeks, the King of Sweden and the President of Austria have been in town. French President Mitterand is due in last March. Generally, the bigwigs make a state visit to San Francisco, still the largest city in the Bay Area, lunch or dine at Stanford University, and tour one or more electronics plants.

The Bailiwick of Guernsey, four small self-governing islands in the English Channel, also sent a team recently, but it could not bring its chief of state, the Queen of England. She visited the Valley last year. Guernsey, with 55,500 residents, saw its unemployment explode from 33 in 1979 to 1,100 this last winter. Guernsey is seeking companies which would employ 25 to 100 people. The largest employer on this islands, Oregon-based oscilloscope manufacturer Tektronix, has a payroll of almost 600. It has operated its plant for 25 years. (Peninsula Times Tribune, March 6, 1984)

## TOXICS RUNAWAY

Silicon Valley is experiencing its first environmental runaway shop. CTS Printex, which supplies printed circuit boards to the electronics industry, has announced plans to close its plant in Mountain View, in the heart of Silicon Valley. It is moving across the San Francisco Bay to Fremont, which, in Southern Alameda County, represents the leading geographical edge of Silicon Valley sprawl. Printex employs 410 people.

Although the recently passed Mountain View ordinance regulating the storage of hazardous materials would require an estimated \$750,000 Printex investment to reach compliance, the city's chief complaint has been sewage. Printex discharges unacceptably high levels of copper, lead, and fluoride into its waste water. The company says it cannot meet Mountain View's clean-up deadline, but it denies that environmental regulation is the reason it is seeking permission to operate in Fremont.

While there has been no apparent public outcry against the planned shutdown in Mountain View, Fremont residents, organized into Sensible Citizens Reacting Against Hazardous Materials, have protested the proposed move. (San Jose Mercury News, March 15 and 17, 1984)

## OFFSHORE COSTS

The enormous savings in production labor costs of offshore manufacturing, particularly in the Far East, appears to give that region an unbeatable advantage in attracting at least the labor-intensive aspects of electronics production. However, reported two electronics executives at a recent Stanford Business School seminar, high-tech companies may be better off carrying out production in the U.S. Debi Coleman of Apple and Keith Slipper of Data Technology Industries listed several potential pitfalls of offshore manufacturing, including:

“Higher inventory management costs because of the longer production schedules of international production pipelines; costly mixups and delays caused by cultural misunderstandings; the likelihood of product counterfeiting by foreign competitors with easy access to the offshore plant; and loss of control over product quality.” (*San Jose Mercury News*, March 8, 1984)

Executives at Priam, a Silicon Valley disk drive-maker, agree. Priam is automating its home facilities, but it is resisting the industry trend toward increased offshore assembly. Joe Smith, vice president for manufacturing, told the *San Jose Mercury News* (March 19, 1984), “We feel it’s more important to tie the factory in to marketing and management; by allowing them to hover right over production we get better time-to-market, better quality and better economies.”

On the other hand, George Morrow, founder of microcomputer builder Morrow Systems, told the *Corporate Times* (March, 1984), “There are three major components in keeping your costs in line. You never use parts that aren’t readily available. You don’t use custom parts. You use low-cost manufacturing (Far Eastern labor). And then you pull every damned circuit you can out of it.” Morrow said that he thought his firm saved about 30% on labor costs by doing work overseas.

## QUME

In general, the old labor movement term of “runaway shops” does not precisely describe the offshore plants of high-tech companies. In nearly all cases, electronics manufacturers have expanded domestic employment while setting up facilities abroad. Qume, however, ITT’s computer-peripheral-making subsidiary, has joined Atari as one of the few U.S.-based companies to actually close domestic U.S. factories in favor of foreign production. This January it laid off 600 production workers as it closed its Silicon Valley plant. Almost a year earlier it had laid off 1,700. The company still maintains a professional workforce of 900 in San Jose, primarily in research and marketing. The company set aside \$250,000 to help its displaced workers find new jobs.

Qume has shifted the production of its printers and memory devices to its plants in Puerto Rico and Taiwan to save on direct labor costs. Reports the *Business Journal* (January 16, 1984), “A typical worker at Qume earns about [US]\$8 an hour to \$10.50 an hour including benefits. Comparable workers in Taiwan make about \$1.50 an hour in wages and benefits.”

## ASIAN CLONES

The government of Taiwan is cooperating with the American government crackdown on the production and export of unauthorized copies of the Apple II microcomputer. However, the official Electronics Research and Service Organization (ERSO), is working with twenty-five private firms to legally develop made-in-Taiwan machines compatible with the IBM PC.

Meanwhile, “pirate” computer manufacturers in Hong Kong, which have been building Apple clones for some time, are beginning to market unauthorized IBM clones as well. (*InfoWorld*, March 12, 1984; *Electronics*, March 8, 1984)

## FLEXTRONICS

Flextronics, a Silicon Valley-based subcontractor that assembles and tests printed circuit boards (see issue no. 34), is opening its second Far Eastern facility, in Hong Kong. Currently the company employs 1,100 people in Singapore and Silicon Valley. Like most other PC board subcontractors, Flextronics has no products of its own on the market. Instead, it attaches chips and other components to boards for such well known computer makers as Convergent, Apple, and until recently, Victor.

Ironically, PC-board assembly can also be done in capital intensive, highly automated plants like Apple's Mackintosh production facility (see issue no. 39). But in most instances, it is still economic to do it the old-fashioned, labor-intensive way.

## MOTOROLA AUTOMATES

Motorola, which has been assembling its Europe-fabricated chips in Asia, has announced plans to build an automated assembly plant at its East Kilbride wafer fabrication plant, in Scotland's "Silicon Glen." The new line will assemble all of Motorola's Scottish chips locally by the end of 1984, and eventually it will assemble its entire European output there.

Though Scottish wages are substantially above those in Malaysia, South Korea, and the Philippines, where Motorola currently assembles its chips, freight costs have been running about six or seven percent of total costs. The company not only expects to save on freight, but in better quality control through automation and by cutting long cycle times. In addition, the new plant is being subsidized by the Scottish Development Agency. Motorola's plant manager said that the Agency's financial incentives were crucial to the decision to go ahead with the project. ("Motorola to Invest \$18.5 Million to Build Automated Microchip Assembly Line in Scotland," Scottish Development Agency news release)

## ZILOG

Silicon Valley chip-producer Zilog, which was formed in 1974 as a wholly owned subsidiary of Exxon, is finally earning profits. Unlike most high-tech start-ups, Zilog had the luxury of a continuing flow of capital to support its activities. This year, for instance, the parent company planned to sink up to \$40 million into wafer fabrication expansion in Nampa, Idaho and Silicon Valley. The **Business Journal** (March 12, 1984) estimates that Zilog's 1984 revenues were about \$80 million.

## PHILIPPINES

The extended Philippines international financial crisis is making business difficult for many electronics firms, for they must arrange new foreign loans to obtain foreign currency. The semiconductor assembly industry there has had no trouble, however, for it is entitled to priority allocations of foreign funds. (**Electronics**, January 12, 1984, p. 76)

## R & D TAX CREDITS

The electronics industry is asking Congress to extend the 25% tax credit enacted in the 1981 Economic Recovery Tax Act, and it is receiving support from both sides of the aisle. The tax credit, which is due to lapse in 1985, allows corporations to subtract from their tax payments 25% of their increases in research and development.

The credit reportedly costs the deficit-ridden U.S. Treasury as much as \$2 billion a year, yet studies by the National Science Foundation and Edwin Mansfield, a University of Pennsylvania economist, say that the credit does little to promote additional R & D. **People & Taxes** (October, 1983, p. 10) contends, "The Treasury thus appears to have spent three to six dollars for every extra dollar spent on R & D in 1982." (See also *Aviation Week*, July 25, 1983, p. 63.)

## LUBBOCK LOCATION

It is no secret that high-tech companies have historically chosen to locate their major facilities near universities in areas reputed to have a positive living environment. **Fortune** (March 5, 1984) describes what happens when a company banks on the wrong site, "According to the former executive from Texas Instruments, TI's decision to base its home computer division in lackluster Lubbock, Texas (300 miles from Dallas), made it impossible to attract enough marketing talent, not to mention skilled circuit designers and software people."

## SUBSCRIPTIONS

To continue to publish the **Global Electronics Information Newsletter**, PSC needs more paid subscriptions. If your copy is stamped, "Please Renew," that means our records show that you have not paid for current issues. Please do renew, by sending a check or money order to PSC. Our rates remain:

US\$5.00 in U.S.

US\$6.25 in Canada & Mexico

US\$10.00 overseas airmail

**Pacific  
Studies  
Center**

INSTA  PRINT

222B View Street, Mountain View  
California 94041 USA  
415/969-1545

Address Correction Requested

**BULK RATE**  
NON-PROFIT ORGANIZATION  
U. S. POSTAGE  
**PAID**  
PERMIT NO. 155  
MOUNTAIN VIEW, CA.