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# GLOBAL ELECTRONICS

# INFORMATION NEWSLETTER

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No. 5

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## INTERLEK

Indy Electronics, the domestic assembly subsidiary of Interlek, has begun production at its \$10 million, 56,000-sq. ft. plant in Manteca, California. Indy has brought in 36 training specialists from Interlek's Dynetics assembly subsidiary in the Philippines. Currently Indy plans to employ 1500 by the end of 1981. Indy will assemble for producers requiring quick turnaround, when device costs are high, and for the military spec. market. (Electronics News, October 20, 1980).

Meanwhile, Dynetics had added 45,000 sq. ft. to its Manila plant, which now totals 150,000 sq. ft. (Electronics News, October 20, 1980)

## SCHLUMBERGER

Schlumberger, the French-based petroleum-oriented instruments manufacturer, is making another strategic acquisition. It has agreed in principle to purchase Manufacturing Data Systems, a Michigan-based software firm specializing in automation and computer services for manufacturers, for \$189 million in stock. Last year Schlumberger acquired Fairchild Camera and Instrument. (Electronics News, September 22, 1980)

## AUTOMATING QUALITY

Since Hewlett-Packard and others reported that Japanese semiconductors were more reliable than the products of U.S.-based companies, the industry has offered numerous explanations. Some Japanese suggest that their automated assembly facilities have reduced error in that stage of production. To compete, National Semiconductor has spent about \$150 million "to reduce human error by automating assembly lines in Southeast Asia and switching to computer-controlled manufacture in a Texas plant." (Wall Street Journal, November 7, 1980). Remember, however, that automated assembly lines still require long rows of semiskilled operatives. Significantly, automation does not make it more economic to shift assembly to the U.S.

## MOLEX

Molex, the Illinois-based producer of cables, terminals, and switches, is expanding at three overseas locations. It opened a 20,000-sq. ft. plant in Japan this year, and it is building a 15,000-sq. ft. Singapore facility. Furthermore, it is constructing a 20,000-sq. ft. addition to its Irish factory. (Electronics News, October 6, 1980)

## GTE

GTE Microcircuits, starting from facilities acquired in 1979 from EMM (see issue no. 4) is investing \$12 million in new facilities in Phoenix, Arizona, and Taichung, Taiwan. The company plans to establish a plastic-packaging plant in Taiwan by late 1981. Currently it subcontracts there. (Electronics News, October 27, 1980)

In Mexico, GTE is participating in a joint venture in Monterrey to build a 30,000-sq. ft. plant to make TV phosphors and wiring parts. (Electronics News, October 6, 1980)

GTE is getting out of the consumer electronics business— it currently markets Sylvania and Philco products. Philips, the Dutch electronics giant, has agreed to buy 10 U.S. plants and one in Puerto Rico, employing a total of 8,000, plus a Juarez, Mexico TV-component facility employing 2,800.

## NIPPON ELECTRIC

Nippon Electric, which already employs 300 at its 6,000-sq. meter Irish semiconductor plant, has announced plans for a "fully integrated" facility to produce state-of-the-art circuits in Scotland. It is building a \$96 million, 11,000-sq. meter factory in Livingston New Town, near Edinburgh. It expects to begin assembly in late 1981 with 200 employees, and by 1985, when wafer fabrication is on line, it will employ a projected 300.

Reportedly, NEC chose Scotland over expansion within Ireland because of the greater, and growing availability of skilled labor. The company expects that 20% of the output from Livingston will be sold in the U.K., with most of the rest going to other Common Market customers. (Electronics News, September 22, 1980, and Semiconductor International, December, 1980)

Meanwhile, NEC is also seeking a U.S. site to assemble integrated circuits and later begin wafer fabrication. (Electronics News, September 29, 1980)

## SILICONIX

In issue no. 4 we reported on Westinghouse's acquisition of 14.6% of Siliconix' stock. There was a typographical error: the year should have read "1980." Since then, Westinghouse has raised its share in Siliconix to 21.8%. Siliconix welcomes the new investments, but its management is opposed to a merger. (Electronics News, November 17, 1980, and San Jose Mercury, November 21, 1980).

Meanwhile, Siliconix has announced plans to build a second plant in Wales. It currently employs 250 in a 40,000-sq. ft. plant at Swansea, where it produces discrete semiconductors and assembles and tests chips from its Silicon Valley headquarters plant. The new plant, a wafer fabrication facility, will employ 100 workers on 50,000 sq. ft. Siliconix had originally planned to locate it next to its Swansea plant, but it is now seeking another South Wales site to qualify for British regional development subsidies. (Electronics News, November 17, 1980)

## VERBATIM/AUSTRALIA

Verbatim (formerly Information Terminals), the Silicon Valley producer of computer memory devices, is building a plant for making 8"-floppy disks in Australia, near Melbourne, to serve the Australian market. (Electronics News, October 20, 1980). Verbatim, which had more than 1500 employees worldwide in 1979, has only one other foreign manufacturing site, an Irish plant opened in 1979.

The Electronics Committee on Safety and Health reported in Spring, 1979, that work was stopped at one of the company's main plants after several women workers complained of dizziness, shortness of breath, and other problems. Up to 150 workers were evacuated, but the company blamed the symptoms on "assembly-line hysteria." (ECOSH News, May-June, 1979)

## TAKEOVERS

Major electronics companies continue their purchases of semiconductor firms and other small high-technology companies, and other related takeovers have been announced as well. Britain's General Electric Company (GEC, not related to GE) has announced the acquisition of **CIRCUIT TECHNOLOGY**, a producer of hybrid circuits for the military market, and several other hybrid manufacturers have either been sold recently or are considering takeover bids. (Electronics News, November 17, 1980).

Square D, a manufacturer of electrical power equipment (circuit breakers, transformers, wiring boxes, etc.) has signed an agreement to buy **GENERAL SEMICONDUCTOR Industries**, which manufactures discrete semiconductors such as zener diodes and power transistors. General Semiconductor, which reported sales of \$11 million for the first nine months of 1980, operates from a 100,000-sq. ft. plant on a 10-acre site in Tempe, Arizona. (Electronics News, November 10, 1980).

Italy's Montedison chemical group has sold **SMIEL**, one of the major suppliers of silicon and wafers for semiconductor production, to **Dynamit Noble** of West Germany, a chemical company belonging to the Flick group. The acquisition will vertically integrate Dynamit's silicon operations. Smiel plans a polysilicon plant for Mobile, Alabama. (Electronics News, October 27, 1980).

**NITRON**, a small Silicon Valley semiconductor firm, is negotiating with a new potential investor. Formerly owned by **McDonnell Douglas**, Nitron was acquired by **Nanon**, a small local firm, in 1977. In November, **Bendix Corp.** refused to exercise its option to purchase 20% of the company.

Nitron has 185 employees, but it has been losing money. (San Jose Mercury, November 25, 1980).

The **Signal Companies**, a top diversified U.S. manufacturer, has once again signed a agreement to acquire **AMPEX**, a Silicon Valley-based producer of magnetic tape equipment, for \$560 million! Ampex' overseas operations include audio-video manufacture in Belgium and England, Data Memory production in Hong Kong and Taiwan, and several product lines in Juarez, Mexico. Among Signal's holdings are Mack Trucks, Garrett Corp., and parts of Golden West Broadcasting, Natomas, and Unitrode. (Electronics News, October 20 and November 3, 1980).

## EAST-WEST TRADE

The U.S. government continues its hopeless task of attempting to halt the flow of commercially available semiconductor technology to the Soviet Bloc. A group of Hungarian engineers bought several Intel microprocessors from a distributor in Munich, West Germany, and used them to aid in their own design efforts. Subsequently the U.S. froze high-technology shipments to Hungary. (Electronics News, November 17, 1980)

## NEW PHILIPPINE SUBCONTRACTOR

**Integrated Microelectronics**, a division of **Ayala/Resins Electronics**, has opened an "automated" integrated circuit assembly plant in Manila. At first, the company will specialize in 40-lead and 24-lead plastic packages, but it expects to handle all sizes eventually. The subcontractor is represented in the U.S. by **Automated Mico Electronics**, in Burlingame, California, north of Silicon Valley near the San Francisco International Airport. (Northern California Electronics News, November 20, 1980)

## UNION CARBIDE

Union Carbide's Kemet division is building a 113,000-sq. ft. factory and office structure in Shelby, North Carolina, and it is adding 40,000 sq. ft. to its Matamoros, Mexico assembly plant. Kemet manufactures ceramic capacitors. (Electronics News, September 22, 1980)

## CAPTIVE PRODUCERS

Worldwide there are at least 56 captive producers of semiconductors. (See also issue no. 4.) Companies such as IBM and Western Electric produce so many IC's that U.S. Department of Commerce statistics show that the Middle Atlantic and New England states produce more semiconductors than the West Coast! The Northeast accounts for 37.9% of U.S. output, while only 36.5% comes from the Far West. (Electronics News, September 22, 1980)

## AMDAHL

Amdahl, the Silicon Valley mainframe computer-maker affiliated with Fujitsu, has transferred its Irish operations from Glasnevin to Swords, moving to a 78,000-sq. ft. plant from a 25,000-sq. ft. plant occupied by Amdahl since 1978. The company projects an employment increase from 150 to 350. Electronics News (September 1, 1980) reports that the plant represents an investment of \$13 million by Amdahl and the Irish Industrial Development Authority, which leases the space to the company.

## EQUIPMENT

In Issue no. 4 we reported on the 1979 sales of semiconductor production and test equipment. Now, reports Electronic Trend Publications, sales are even higher. Total shipments for the first half of 1980 were \$727.4 million, compared to \$1,052.9 million for all of 1979. (Northern California Electronics News, November 10, 1980)

## D.E.C./SINGAPORE

Massachusetts-based Digital Equipment Corporation has announced plans to start manufacturing in Singapore. It plans to open a 150,000-sq. ft. building in Ang-Mo-Kio-New Town by 1982, leasing a 50,000-sq. ft. facility nearby until then. DEC, with 29% of the small computer market the top producer in that field, will produce memory products, including semiconductor and core memories. DEC operates similar plants in Hong Kong and Taiwan. (Electronics News, September 1 & 29, 1980).

## DATAPRODUCTS/IRELAND

Dataproducts, the computer peripheral equipment manufacturer from Southern California, is expanding its Dublin, Ireland production facilities. The \$10 million, 200,000-sq. ft. addition will increase its floorspace by 70% and will add 250 employees to the existing workforce of 500. The plant produces printers and memory units for the European and South American markets. Similar to other electronics investments in Ireland, the Dataproducts expansion is being subsidized by the Industrial Development Authority of Ireland. (Electronics News, November 17, 1980)

## HARRIS SEMICONDUCTOR

Harris' Semiconductor Products division has announced plans to double its semiconductor manufacturing capacity by 1983. It is adding 257,000 sq. ft. to its Palm Bay, Florida plant, investing \$40 million on the building and \$80 million on equipment. The company projects an increase of 1,100 jobs.

Meanwhile, the company is expanding its assembly operations in Kuala Lumpur, Malaysia, and wafer fabrication in Poughkeepsie, New York. Its Matra-Harris 49%-joint venture in France, subsidized by the French government, expects to commence production in mid-1981 at Nantes.

## AUTOMOTIVE ELECTRONICS

Delco Electronics, the Kokomo, Indiana-headquartered division of General Motors, advertises itself as "one of the biggest semiconductor manufacturers in the world." (Electronics News, October 27, 1980) Producing entirely for GM, Delco second-sources Motorola designed chips.

Motorola recently released figures projecting the rising use of semiconductors in cars (Electronics News, November 24, 1980):

### Semiconductor Value Per Car

1978 est. 1982 proj. 1985 proj.

	1978 est.	1982 proj.	1985 proj.
Entertainment	\$ 2.60	\$ 3.40	\$ 4.40
Comfort/Convenience	1.30	5.90	13.30
Engine Controls	5.80	26.70	21.70
Miscellaneous	0.	1.40	4.10
<b>TOTAL</b>	<b>9.70</b>	<b>37.40</b>	<b>43.50</b>

## WESTERN ELECTRIC/SOUTH KOREA

Western Electric, the manufacturing arm of AT&T and one of the world's largest makers of semiconductors, has agreed to purchase 44% of the stock in South Korea's Gold Star Semiconductor for \$3.5 million. The arrangement is part of a larger agreement between AT&T and the Republic of Korea government, in which the Bell System will help modernize the Korean phone system and establish domestic phone equipment manufacturing capability. The joint venture, in which Western Electric will provide switching technology to Gold Star, will build a production plant in Gumi. (Electronics News, November 24, 1980)

## MOTOROLA

Motorola is the first major U.S. semiconductor firm to establish an assembly and testing plant in Sri Lanka (see issue no. 3). It has made plans to build a \$22 million, 125,000-sq. ft. factory, projected to employ 2600 people, at the Katunayake Export Processing Zone. (Electronics News, November 3, 1980)

In addition, Motorola is expanding its domestic fabrication capacity in Austin, Texas and Mesa, Arizona. It is also establishing its first manufacturing base in Japan through 50%-ownership of Aizu-Toko, an affiliate of Toko, Inc. The joint venture will initially produce automotive semiconductor products.

In Denmark, however, Motorola is closing its Topsil subsidiary, which employs about 100 production workers. The particular specialty of Topsil, floating zone silicon technology, has proven unprofitable. (Electronics News, November 3, 1980)

## GENERAL INSTRUMENTS/U.K.

General Instrument Corp., headquartered in New York, has announced plans to double its Glenrothes, Scotland wafer fabrication facilities. For \$20 million, 40% subsidized by a government regional development grant, it will increase its space from 50,000 sq. ft. to 90,000 sq. ft. and double employment to about 1,000.

Meanwhile, the Microelectronic Systems subsidiary of the British firm Racal has signed a technology transfer agreement with GI, in which it promises to purchase integrated circuits from the Glenrothes plant. (Electronics News, September 15 and November 17, 1980)

## PAMPHLET AVAILABLE

PSC's original pamphlet on Silicon Valley is still available. Prepared in late 1977, "Silicon Valley: Paradise or Paradox?" focuses on the local history and impact of the phenomenal growth of high technology industry in Santa Clara County.

It may be ordered from PSC for \$1.50 plus \$.50 shipping (surface mail) for each copy. Bulk discounts are available.

## NEW SUBSCRIPTION RATES

The new rate schedule for the Global Electronics Information Newsletter, for one year, is:

United States—\$5.00

Canada & Mexico—US\$6.25

Overseas—US\$10.00

When possible, the newsletter is published monthly. Occasional delays, however, cause the publication of double issues.

Those on our mailing list who receive this issue with a 20-cent stamp will be dropped unless they subscribe. Postal packaging regulations make it impractical to continue supplying those addresses.

## PLEASE SEND INFORMATION

This issue consists almost exclusively of reports on company activities. We hope that the newsletter will also contain regular reports of organizing activities, independent research, and other information. Please send us brief notes or longer documents from which we can write newsletter items.

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