
GLOBAL ELECTRONICS INFORMATION NEWSLETTER

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START-UPS

Although there were few semiconductor production company start-ups in the latter half of the 1970's, the last year has seen several major new ventures. One major reason is the wide availability of venture capital, in part a result of changes in U.S. tax laws.

One new firm, Linear Technology, has raised \$5 million in "first-round" financing from six Bay Area venture capital groups. Linear Technology, founded by several defectors from National Semiconductor's upper-level management, plans to manufacture and market linear semiconductors (devices handling continuously variable pulses) within 18 months. The six venture capital firms are Hambrecht & Quist - whose principals now include former Pentagon procurement and research chief William J. Perry - the Mayfield Fund, Sequoia Capital, Sutter Hill Ventures, Technology Ven-

A.M.D. LAY-OFFS

Caught in profit bind by the "soft market" for semiconductors, Silicon Valley-based Advanced Micro Devices has closed its money-losing Advanced Micro Computing subsidiary. Although it laid off 193 employees in the shutdown, the company has made new job offers to at least 110. (San Jose Mercury, October 23, 1981)

ture Investors, and Kleiner, Perkins, Caufield, & Byers. (San Jose Mercury, September 30, 1981; Electronics News, October 12, 1981)

Another group, led by four former employees of American Microsystems, has launched Integrated Microelectronics Products. IMP hopes to become a top supplier of custom chips - the market segment served by AMI. Based in Mountain View (Silicon Valley), IMP has lined up a whopping \$8.3 million from ten venture capital firms, including Citicorp Venture Capital and Menlo Ventures. (Peninsula Times Tribune, September 1, 1981)

AN APPEAL

This newsletter is one of the activities of PSC's Global Electronics Information Project. Although subscription income is rising, most of the Project's work has been supported by grants. Unfortunately, grant fund-raising has not covered Project expenses this year, and PSC needs help.

Newsletter readers can help in two major ways: First, they can find new, paying subscribers to the newsletter. These might include libraries or gift subscriptions. Second, they can send tax-exempt contributions to PSC. Any support is greatly needed and appreciated.

TRILOGY

Silicon Valley-based mainframe computer newcomer Trilogy Ltd. has lined up a manufacturing site in Ireland and completed its \$160 million financing package. Trilogy was founded last year by Gene Amdahl, who had left IBM ten years earlier to form Amdahl Corp. In early 1981 he was joined by his son Carlton, previously executive vice-president at Magnuson Computer Systems. The Holy Ghost in the Trilogy trinity is Clifford Madden, who left Amdahl Corp. with Gene.

The Irish Development Authority has approved a \$25-million computer factory in Dublin, and it has promised Trilogy \$18 million in grants, mortgage financing, lease financing, and equity investment.

Meanwhile, the company has raised \$30 million from a preferred stock offering and \$55 million from a research & development limited partnership. Presently, the top three hold 71% ownership, but that will fall to about 50% as partnership and stock options are exercised. Amdahl has apparently gone out of his way to put together a structure which would give the co-founders long-term control over the company. He was dissatisfied at Amdahl Corp., where he ultimately held only a 3.5% share of the company with his name. Control rested with Japanese multinational Fujitsu and venture capitalists.

Trilogy has, however, sold a large block of preferred stock – reportedly valued at about \$8 or \$10 million – to another foreign computer company, CII-Honeywell Bull. (CII stands for *Compagnie Internationale pour l'Informatique*.) Though 47% of CII-HB is owned by U.S. computer-maker Honeywell, French-based St. Gobain-Pont-a-Mousson holds a controlling interest. St. Gobain, which also has a joint venture with National Semiconductor, owns a reported 51% of *Compagnie des Machines Bull*, which in turn holds 53% of CII-HB. (Though President Mitterand's Socialist Party originally vowed to

nationalize CII, it has run up against a joint venture agreement which was carefully worded to protect Honeywell's interests. At this time the Mauroy Socialist Party government is negotiating with Honeywell. There are three possible outcomes: 1) Nationalization; 2) Nationalization of either of the French parent firms; or 3) The status quo.) (*Electronics News*, October 19, 1981 and March 9, 1981; *San Jose Mercury*, February 24, 1981)

MOTOROLA KOREA EXPANSION

Although some semiconductor production executives (primarily managers of Filipino-owned assembly subcontractors) have warned that wages in South Korea are becoming prohibitively high for assembly work, Motorola Semiconductor has sought and received Republic of Korea approval for expansion of its Seoul plant. The company will finance the expansion by increasing its equity investment from US\$5 million to \$25 million. (*Electronics News*, September 14, 1981)

ANALOG DEVICES SUES

Analog Devices has filed suit against the First National Bank of Boston to prevent payment claimed by Taiwan's United Pacific Semiconductor. United Pacific claims \$100,000 for "handling" after Analog Devices severed its subcontracting relationship and demanded a return of all raw materials, and it has presented a letter of credit to the bank. Analog Devices, which first hired United Pacific as one of its several Far Eastern assembly subcontractors in 1978, had found that the firm's quality had "deteriorated." As its precedent, Analog Devices is recalling a case in which another Massachusetts-based electronics firm, Itek, sued First National to prevent the bank from honoring a letter of credit after Itek canceled a contract with the Iranian government after the fall of the Shah.

DOMESTIC ISSUES, TOO

Though this newsletter was established to keep track of trends in the **international** semiconductor industry, with an emphasis on the impact on electronics workers, we have discovered a growing interest in the spread of high technology electronics firms within the U.S. In fact, the issues are inseparable. U.S. states and cities are competing for semiconductor jobs the same way that Ireland, Taiwan, and Mexico do. In general, the phase of production differs – it is more capital- and technology-intensive within the U.S. Nevertheless, localities are offering reduced regulation, training grants, tax subsidies, and research facilities in their attempts to become “Silicon Mesa,” “Silicon Mountain,” “Silicon Beach,” “Silicon Desert,” and “Silicon Valley-East.”

In most cases, promoters of high technology development are touting the industry as clean and light, ignoring the workplace and environmental hazards of the toxic chemicals, metals, and gases used in production. They suggest that semiconductor and related companies will provide jobs for the unemployed, as well as professional level salaries.

While in many cases, under the right conditions, electronics manufacturing makes sense, its advantages are usually overstated. Subsidies and regulatory concessions not only play a minor role in attracting firms, but they are usually not worth it.

We hope this newsletter will serve as a vehicle for activists, journalists, and scholars exploring these domestic implications of high technology electronics as well as the industry's international ramifications.

A.S.M.I. BUYS PLATING

Advanced Semiconductor Materials International, based in Bilthoven, the Netherlands, has bought out Hong Kong-based Plating Industries. Plating supplies the Far Eastern semiconductor packaging industry with plated lead frames.

PACKAGING ROBOT

Conceptek Corp., in Tucson, Arizona, has announced the marketing of a semiconductor packaging robot, the CT-10,000. The microprocessor-controlled machine is designed to load several thousand chip carriers (seal boats) onto ceramic bases and lead frames for baking into dual in-line packages (the familiar caterpillar shape of the completed chip). According to the company, the \$39,000 machine, which requires only part-time attention from an operator, can do the work of six or more assembly workers. (*Electronics*, October 20, 1981)

JAPANESE QUALITY

Keiske Yawata, head of Nippon Electric's U.S. subsidiary, has told a U.S. Congressional subcommittee that automation has been the key to Japan's uniformly high quality semiconductor production. *Electronics News* (September 14, 1981) paraphrased Yawata, “When many U.S. semiconductor producers manned assembly bases in Southeast and Far East Asia with cheap labor, the Japanese semiconductor manufacturers turned to automation and found that not only was labor discontent minimized, but quality was improved.”

The *Electronics News* article, however, like most which offer this analysis, did not explain how automated assembly improved quality in the wafer fabrication or testing phases of production, which are probably more central to the trans-Pacific quality debate.

I.C. NEDERLAND

American Microsystems, which recently established a joint-venture operation in Austria (see Issue No. 12), will soon be doing business in the Netherlands. Integrated Circuits Nederland, capitalized at 800,000 Dutch florins, has signed a two-year contract with AMI in which the Silicon Valley-based company will produce ICN-designed chips. (*de Volkskrant*, August 26, 1981)

SIEMENS SHUTDOWN

German multinational Siemens is closing its Scottsdale, Arizona plant, where it has been producing tantalum capacitors as well as zener diodes and other components. The shutdown, ostensibly caused by rising tantalum powder costs and slackening demand, provides a textbook example of the workings of multinational electronics firms.

Capacitor production will be shifted to Heidenheim, West Germany, where a more automated production line is now operating with excess capacity. Other Scottsdale products will be shifted to Siemens facilities in Broomfield, Colorado and Agua Prieta, Mexico. Asked whether the decision to close the plant was made in Germany or in the New Jersey offices of Siemens Components Group, an official at the latter told **Electronics News** (October 12, 1981). "It was a combination."

The company says it plans to offer its 400 employees in Scottsdale the opportunity to transfer to Siemens' other U.S. operations. Siemens took control of the facility in 1974 when it acquired Dickson Electronics.

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