GLOBAL ELECTRONICS INFORMATION NEWSLETTER

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PHILIPPINE STRIKES

Workers at the two biggest integrated circuit assembly subcontractors in the Philippines, Stanford Microsystems (SMI) and Dynetics, staged strikes earlier this year. The Dynetics workers walked off the job for one day on May 16 and a number or the strikers were arrested. Strikes are illegal in the Philippines electronics industry.

SMI was shut down for three days (May 29-June 1) when some 7,500 workers (75% of the workforce) at all three Manila plants went out on strike. They were protesting the abuses of Tony Odtohan, a supervisor in an assembly area at the Ugong, Pasig, plang. On May 20, he reportedly scolded aloud the women assemblers for letting quality suffer. "You are all uneducated and uncivilized," he allegedly shouted.

The workers in his area, IC-5, petitioned the management to have him replaced. When management ignored their demand, they went to the Ministry of Labor and Employment (MOLE), which also brushed them aside. Then, on May 27, the IC-5 workers came to work wearing red t-shirts and red ribbons to show their determination to be heard.

Two days later, on May 29, the Stanford League of Unions (SLU) issued a strike call, to begin on the third shift. The workers walked out and immediately management called in the Metrocom police to protect company property. Some strikers formed picket lines at the gates, while others went to the pick-up points for employee buses to encourage fellow workers to join the strike.

On June 4, management agreed to the SLU's demands to transfer Odtohan to a position where he would not be bossing other workers, and to reinstate one worker who was fired for her role in the strike. The workers at Stanford have scored a small, but significant victory.

MORE ON MOSTEK

In issue no. 3 we reported on Mostek's plan to shift ROM (read only memory) package assembly work back to the U.S. According to its 1980 report, however, Mostek will continue to expand abroad. It is adding 30,000 square feet to its Penang, Malaysia assembly plant, where it produces over 500,000 integrated circuits a week, and it is planning to build another 100,000 square-foot assembly plant elsewhere in Asia.

Last November, Moetek started up a fabrication plant in Blanchardstown, Ireland, just outside Dublin. It is currently adding another 100,000 square feet for assembly and final testing, with a capacity for fabrication expansion.

Meanwhile, *Fortune* magazine (September 22, 1980) reports that United Technologies acquired Mostek so it could utilize state-of-the-art semiconductor technology in a wide range of production activities, from elevators to jet engines to kitchen applications. United Technologies bid for Mostek as a "White Knight," after Gould Instruments tendered a takeover offer viewed as unfriendly by Mostek management.

SPRAGUE ELECTRIC

Worcester, Massachusetts-based Sprague Electric, which sells some $30 million in linear integrated circuits each year, is establishing a test and assembly operation in Manila, the Philippines. It has taken 60%-control of Deltron, which employs about 600 people there. Previously, Sprague has relied exclusively on subcontractors--in Taiwan, Hong Kong, and the Philippines--for assembly and testing.

In addition, Sprague has established a warehousing and marketing subsidiary in Japan, in the hope of eventually undertaking production there. (*Electronics News*, July 14, 1980)

SANGAMO

Sangamo Capacitors, a subsidiary of Schlumberger (which also owns Fairchild), has expanded its capacitor plants in Juarez, Mexico and New Delhi, India, as well as Pickens, South Carolina, site of Sangamo's headquarters.

TRIUMPH GARMENTS

The Hong Kong-based Center for the Progress of Peoples is seeking information on the activities and labor relations of Triumph, a multinational garment firm. If you can help, please contact the Center, at 48, Princess Margaret Road, 1/F Kowloon, Hong Kong.

IBM IN JAPAN

Electronics News (June 30, 1980) reports that IBM is planning a major facility to produce 64-kilobit random access memory (64-K RAM) chips in Japan by 1983. Although IBM already operates a computer-manufacturing subsidiary in Japan, it will be only the second--after Texas Instruments-- U.S. company conducting wafer fabrication in Japan.

SINGAPORE PARTS PLANT

Minnesota-based Buckbee-Mears Co. has announced plans to build a $3.5 million, 15,000 square-foot factory in Singapore to manufacture lead frames for integrated circuit packages. The company expects to employ 30 people there by the end of 1980.

Chips are generally bonded to these frames before encapsulation, as part of the assembly process. Thus it is not surprising that half the annual $500 million lead frame market is in Southeast Asia. The new plant will supplement Buckbee-Mears' Chicago-area production. (*Electronics News*, August 25, 1980)

SINGAPORE WAGES

Singapore's National Wages Council has recommended a substantial rise in wage guidelines for the second straight year. Last year's raises averaged 20%. This year the Council suggested 19%.

MALAYSIAN ANTI-LABOR LAWS

Western labor unions are recognizing that Malaysia, despite its democratic image, does not permit free labor organizing. The *AFL-CIO Free Trade Union News* (August, 1980) reprinted a story from the *International Metalworkers Federation News*, stating:

> Trade unions in Malaysia are now under serious threat following the passage through parliament of amendments to existing labor legislation. The new laws give wide new powers to the government and are aimed at curbing the growth of trade unions as well as weakening those that exist.

The new laws are designed to make Malaysia more attractive to foreign investors. Of course, Malaysia has always restricted semiconductor industry labor organizing to attract foreign companies.

FUJITSU TO IRELAND

Fujitsu has announced that it plans to be the fourth semicoductor producer to establish production in the Republic of Ireland, following Mostek, Analog Devices, and Nippon Electric. Fujitsu plans to supply the European market from the Dublin-area facility, employing eventually 1100 workers at the US$100 million plant.

SOUTH KOREA

According to figures collected by the US Embassy in Seoul (Department of State Airgram A-49, April 18, 1980), electronics firms in South Korea employed about 218,000 workers at the end of 1979. 48,000 worked for foreign-owned firms (primarily US) and 50,000 for joint ventures. Most of the semiconductor production, which is generally exported, is controlled by foreign companies such as Motorola, Fairchild, Signetics/Philips, Fujitsu, and Nippon Electric.

In 1979, semiconductor production totalled US$459.4 million, $420.0 million of which was exported. Motorola, with sales of $109.2 million, ranked fourth among South Korean electronics companies; Signetics sixth with $86.4 million, and Fairchild ninth with $50.2 million.

A survey of South Korea's 248,000 electrical equipment employees showed that average monthly pay, including overtime and bonuses, was $223.54 in 1979, for 230 hours of work. For the 205,000 production workers, however, the average dropped to $180.07 for 231 hours per month. The data published in the airgram does not break pay figures down by sub-sector or ownership.

NORTH CAROLINA

North Carolina officials, who recently staged an unsuccessful "economic mission" to Silicon Valley, are still moving ahead in their plans to make their state the microelectronics center of the Mid-Atlantic. The state has created a non-profit Microelectronics Center, with research facilities at the Research Triangle Park, to attract semiconductor companies to the area. Already General Electric has announced plans to construct the first of its five integrated circuit mass production facilities at the state-owned industrial park.

JAPANESE WOMEN

Twelve million Japanese women work for pay. Nearly two thirds are married. A majority are "part-time or day laborers, without the benefit of labr unions nor the protection of labor laws." Even women "represented" by electrical workers' unions are not protected, for the unions are run by male professionals. Women's average pay is 56.2% of men's average pay.

FGovernment policy to eliminate discrimination, however, is not aimed at wage differentials or inadequate job security. Rather, the Labor Ministry proposes to eliminate protection legislation, which, among other things, limits the hours that women may be employed.

Forty-eight major women's groups have organized to oppose the changes. For more information, conact the Women's Association of the National Christian Council of Japan, 24, 2-3-18 Nishiwaseda, Shinjuku-ku, Tokyo, Japan.

T.I. RESULTS

Texas Instruments' components (primarily semiconductors) profits, as a share of total profits, rose sharply last year, although components as a share of total sales remained constant. For 1979, component sales accounted for 70% of Texas Instruments' pre-tax profits, or $216 million, up from 49% or $128 million in 1978. While TI component sales revenue has increased steadily during the past three years from $958 million in 1977 to $1527 million in 1979, component sales as a percentage of total sales has stayed at 46% to 47%.

ASHES TO ASHES

Mt. St. Helens has blown a whole in plans by Silicon Valley firms to expand in the Pacific Northwest. Volcanic dust, of course, can easily contaminate a wafer fabrication area. National Semiconductor has scrapped plans for a 200,000 square-foot, 2,000-employee, $80 million wafer fab plant at Vancouver, Washington. Instead National will expand its home plant in Santa Clara, and it is planning a new facility in Arlington, Texas, between Fort Worth and Dallas. The Arlington plant, not too far from both Mostek and Texas Instruments, will eventually employ 1,500 people in a 250,000 square-foot facility costing an estimated $130 million. It will be National's fifth wafer fab site.

Meanwhile, American Microsystems (AMI) has suspended construction of an addition to its Pocatello, Idaho plant. (*Electronics News*, August 11 & 25, 1980)

SOFTWARE SHORTAGE

Business Week (September 1, 1980) reports that a shortage of computer programmers could slow the application of the oncoming generations of computers and microprocessors. Though the semiconductor industry has harnessed its own products in circuit design and hardware production equipment, it has not overcome the need for humans to design computer programs. The extenaive *Business Week* story describes the rise of the independent software industry. Programming, it reports, is a field dominated by the U.S.

GETTING BACK IN

The major U.S. producers of vacuum tubes-RCA, General Electric, Westinghouse, and Sylvania, were among the first companies to market transistors. Only RCA, however, kept up with the innovative pact established by TI, Motorola, and the newcomers in Silicon Valley. The others dropped out of the merchant semiconductor market, although they manufactured some custom circuits, particularly for military applications. Now, all three are moving back into the semiconductor business.

GE. General Electric has taken two steps to move back into semiconductor competition. First, it has announced an agreement with Intersil, a Silicon Valley spin-off of Fairchild (founded by Jean Hoerni, inventor of the planar process, in 1967), to acquire Intersil for approximately $237 million. Intersil had sales of $174 million in 1979, compared to GE's $22 billion. Intersil employs 3,700, 2,000 in Silicon Valley.

Second, GE has announced plans to build an 89,000 square foot wafer fabrication facility, capable of producing 400,000 wafers (4 million chips) annually, in North Carolina. The $55 million plant will eventually employ 500 people.

Each year GE buys nearly 100 million chips, half of which are custom circuits, from merchant firms. (*Electronic News*, August and September issues, 1980).

GT&E. Sylvania, now an arm of General Telephone and Elecctronics, established its microcircuits division in Phoenix, Arizona, in December, 1979, in two plants purchased from Electronic Memories and Magnetics--the entire EMM Semi subsidiary--for about $20 million. GT&E plans to invest millions more in new semiconductor manufacturing in Arizona.

WESTINGHOUSE. In September, 1970, just after the GE-Intersil deal was announced, Westinghouse disclosed a much smaller move. It has agreed to purchase 14.6% of Siliconix stock, for $9 million, from Electronic Engineering Company of California (EECO). Lucas, the British aerospace firm, owns 21.5%.

Siliconix has wafer fabrication facilities in Santa Clara, and assembly and testing in Wales, Hong Kong, and Taiwan. In 1979 it employed nearly 2000 people, including 397 in Hong Kong, 302 in Taiwan, and 238 in Western Europe (chiefly Wales).

A.M.D. EXPANDS

Advanced Micro Devices, headquartered in Sunnyvale, California, is in the midst of a major advertising campaign to recruit new professional employees in the San Francisco Bay Area. Radio and television ads urge prospective employees to "catch the wave," with the TV spot even showing a man surfing in a business suit.

AMD needs these people because it is expanding at several sites. In has just constructed a new wafer fabrication plant in Austin, Texas, and it has announced plans to build a third wafer fab plant in Gilroy, at the rural, southern end of the Santa Clara Valley. AMD's annual report explains, "The Austin facility marks the beginning of the company's decentralization of wafer fabrication, continuing a pattern that had been set with the establishment of assembly factories in Penang, Malaysia, and Manila, Philippines."

AMD has also built a new research facility in Sunnyvale, where R & D will be centralized, and it plans to expand both Asian assembly plants.

Twenty percent of AMD is owned by Siemens, the West German electronics multinational.

CAPTIVE PRODUCERS

Many electronics firms or branches produce semiconductors solely for in-house use. These "captive" producers include instruments manufacturers such as Tektronix and Hewlett-Packard, communications equipment makers such as Zenith and Western Electric, military systems companies such as Boeing, Hughes, and Watkins-Johnson, minicomputer specialists such as Data General and Digital Equipment, and other major semiconductor users such as General Motors- Delco, Eastman-Kodak, and Xerox. Most "merchant" firms, which sell their output to other companies, sell a smaller portion of their semiconductors to equipment-producing divisions within the company.

It is difficult to collect data on captive producers, precisely because transactions are in-house. Usually, captive producers are insulated from the debates on trade and technology that bring merchant semiconductor executives before Congress frequently. And because semiconductor work is generally a small segment of company operations, it is seldom written up in company annual reports.

Electronics (May 22, 1980) did print some current data on the integrated circuit production of the six top U.S. manufacturers of mainframe computers, but unfortunately it neglected to mention any of their overseas assembly operations.

	IC employees	in-house supply
IBM	30,000	80%
Honeywell	875	10-20%
NCR	800	40%
Burroughs	800	
Sperry	under 800	20%
Control Data	500	20-25%

Though all major U.S. automakers now use microprocessors in all their cars, only General Motors has developed in-house production capability. Motorola, however, remains the primary supplier of semiconductors to GM, while GM's Delco division-- which reportedly has a plant in Singapore--"second-sources" chips designed by Motorola.

NEW DOMESTIC ASSEMBLY SUBCONTRACTOR

Micro Assembly & Test, Inc., of Corona, California (near San Diego) has formed a partnership with Polyohm to provide contract wafer-sawing and assembly service at Corona. The venture plans high volume sawing (the separation of individual die from wafers), but only low-to-medium volume assembly, presumably because high volume assembly is substantially cheaper in the Far East. (*Electronics News*, August 11, 1980)

SEMI POLITICS

Semiconductor executives, who frequently testify on tax and trade issues on Capitol Hill, are undertaking a new approach to influence government policy. Recently, both Intel and National Semiconductor established political action committees, to funnel funds to Congressional candidates sympathetic to their views. These new committees are relatively small, but they demonstrate Silicon Valley's increasing dependence on decisions made in Washington, DC. (*San Jose Mercury*, October 2, 1980)

EQUIPMENT

Worldwide sales of semiconductor production and test equipment surpassed $1 billion in 1979. U.S. firms, led by Fairchild and Perkin-Elmer, held 85% of that market, which does not include captive sales of equipment. Wafer-processing equipment accounted for 49% of the total; test systems for 38%; and assembly, 13%.

Top 10 Suppliers of Semiconductor Equipment

	equipment sales (US$millions)
Fairchild	111.4
Perkin-Elmer	101.2
Applied Materials	54.1
GCA	54.1
Teradyne	53.4
Varian	50.8
Tektronix	39.2
Eaton (Cutler-Hammer)	37.7
Kulicke & Soffa	37.0
Balzers	33.7
subtotal	572.6
others	480.3
total	1,052.9

STRIKE 3 FOR GOULD

Gould Instruments has failed three times in the past year-and-a-half in attempts to purchase a semiconductor manufacturer. First Schlumberger outbid its offer for Fairchild; then United Technologies won the contest for Mostek; and finally this September Intersil announced that it would be acquired by General Electric, following reports (*Electronics News*, July 14, 1980) that Gould was buying into Intersil.

INFORMATION EXCHANGE

The Pacific Studies Center considers the Global Electronics Information Newsletter to be a vehicle linking together activists and researchers throughout the world. Here are some ways we can help eachother.

1. If you have data, bibliographical information, or organizing reports that would be useful to others, send it in and we'll publish it.

2. If you need information and would like to get in touch with others working in the industry, we can publish your request for information. Please consider whether you wish your contacts to remain confidential.

3. If your group is providing services that might benefit others in the industry, send us a brief description of your work for inclusion.

SUBSCRIPTIONS

For those who can afford them, one-year subscriptions to the newsletter are US$5.00 (US$15.00 international airmail).

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 orderd from PSC for $1.50 plus $.50 shipping (surface mail) for each copy. Bulk discounts are available.

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