

KOREAN STRIKES

We're still awaiting details on labor strife in the South Korean electronics industry, but it appears that electronics workers have joined their counterparts in the garment industry and heavy industry in an unprecedented wave of strikes for labor rights, including the recognition of independent labor unions.

In their actions, Korean workers have destroyed a racial stereotype all too prevalent in the American press. Praised for their speed and efficiency, Koreans have been pictured as happy, busy little bees, enjoying their own exploitation.

The explosion that occurred when the government lifted restrictions on political activity shows that workers in Korea acted docile only because there was always a gun pointed at their heads. Before "democratization," workers who stepped out of line were punished.

Some observers, as well as Korean business leaders, believe that South Korea's export economy will regain its stride, once workers' attain slightly higher pay and win the recognition of genuine unions. *Business Week* (August 31, 1987) calls them the optimists, and it reports, "Companies that have cut deals have found workers willing to put in 65-hour weeks to recoup lost production. That willingness to work harder means 'the Koreans can solve the problem early with minimum damage,' says William A. Stoops, a Seoul representative for Vickers Da Costa, the financial services firm."

There is a fundamental contradiction, however, between South Korea's economic strategy and democratic rights. Recent South Korean governments have not been repressive because Koreans have a cultural affinity for boot heels. Rather, the policy of stifling dissent has been a necessary part of the government's strategy of holding down wages to keep Korean products competitive in the world marketplace.

In the long run, there is no way that Korean workers, if allowed to organize freely, will accept an industrialization policy in which they cannot afford the fruit of their labors. Either South Korea

will shift economy strategies, placing a greater emphasis on the development of a domestic consumer market, or totalitarian rule will return.

TOUGH QUESTIONS ABOUT "SEMATECH"

The semiconductor industry's proposal for Pentagon subsidization of a manufacturing research consortium is receiving increasing attention in the media and in Washington. Congress appears ready to appropriate funds, and several states and cities are promising to subsidize the operation if it locates in their domain.

Industry's proposal is receiving frightfully little scrutiny. In fact, the complete proposal has apparently not yet been published. There is no visible organized opposition.

While some Federal support for a manufacturing research consortium may make sense, as a mechanism to boost U.S. employment, a number of tough questions must be resolved first. Here are the views of *Global Electronics*:

1. Is it appropriate for the Federal government to allow or encourage research consortia?

Yes. Cooperation should accelerate the development of new production equipment and techniques. The semiconductor industry has a good record of price competition, and that is likely to continue. Care should be taken, however, to assure that small companies are not denied the results of research carried out by a research consortium with government funding.

2. Should the Federal government fund a semiconductor manufacturing technology research consortium?

Yes, subject to conditions. It is appropriate for the government to support research that will benefit the national economy. Since corporations, not academic institutions, are the repository of most American manufacturing technology, a consortium is an appropriate vehicle.

3. Should the Pentagon be the lead

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Federal agency supporting a manufacturing technology research consortium?

No. The military and other agencies with national security responsibilities are likely to restrict the export of components and the transfer of technology. In addition, any agency with its own, narrow needs for semiconductors is likely to distort the technological priorities of the consortium. This does not mean, however, that project-specific research contracts should be excluded.

4. Should states or local governments offer incentives to attract a research consortium?

No. This just leads to a bidding war in which local taxpayers subsidize a national undertaking. However, it is appropriate for local entities to spend money on infrastructure, education, environmental protection, urban planning, and other services that benefit the entire community.

Furthermore, though Sematech could help put a fledgling Silicon city on the map, there is no evidence that Sematech will attract or spin off enough other high-tech businesses to make up for the subsidies. The Microcomputer and Computer Technology Corporation (MCC), its counterpart in the computer industry, was the prize in a fierce bidding war, but MCC has done relatively little for Austin and Texas.

5. Which companies should be allowed to utilize the technology generated by government-funded research?

US taxpayer money should only be utilized in support of production carried out in the United States. Regardless of the membership in the consortium, government-funded proprietary technology should be made available to any production line where both wafer fabrication and assembly are done in the U.S. Federal money should not subsidize the manufacture of chips assembled abroad by or for "American" companies. The American branches of foreign-owned firms, as well the American companies too small or too new to join the consortium, should be eligible to use the technology for U.S. production.

Since personnel who develop expertise through the consortium's activities are free to move on to other firms, it is recognized that certain forms of technology cannot easily be restricted to domestic production.

6. Should the public influence the research priorities of the consortium?

Any U.S. program to further semiconductor manufacturing technology should place a high

priority on the development of production techniques that reduce the use of toxic materials and the generation of hazardous waste.

WORKERS' RIGHTS

The AFL-CIO is now taking a strong stand for the rights of working people in the Third World. The labor federation has petitioned the U.S. government to deny trade preferences to several countries governed by reactionary regimes, filing detailed complaints. The *Bulletin of the AFL-CIO Department of International Affairs* (June, 1987) reports:

"On June 1 the AFL-CIO filed formal complaints with the U.S. trade representative under the Generalized System of Preferences (Title V of the Trade and Tariff Act of 1984). The complains called for immediate termination of GSP benefits for Chile, Indonesia, Paraguay, Singapore, South Korea, Suriname, Taiwan, Thailand, and Turkey, on the grounds that government-sanctioned violations of internationally-recognized workers' rights warrant the termination of those benefits. Warnings of potential denial of GSP benefits for the same reasons, but in view of changes in government or other special circumstances, were asked for the Central African Republic, Guatemala, Haiti, and Zambia."

GLOBAL ELECTRONICS

edited by Lenny Siegel

Issue No. 77

published monthly by the

Pacific Studies Center
222B View Street
Mountain View, CA
94041 - USA
415/969-1545

US ISSN 0739-0416

subscription rates (12 issues)

United States: \$12.00
Canada and Mexico: US\$14.00
Overseas: US\$17.00

all back issues are available

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Mountain View, California

SCOTTISH SEMICONDUCTORS

The central belt of Scotland, called by many "the Silicon Glen," contains the greatest concentration of chip manufacturing in Europe. "By 1983," writes Jeffrey Henderson of the University of Hong Kong, "Scotland had become responsible for 79% of British and 21% of European integrated circuit production."

Still, the roughly 4,400 workers employed in 1985 by the semiconductor industry in Scotland represent a small fraction of worldwide chipmaking employment and a little more than one percent of Scotland's declining manufacturing employment. Nearly all those workers are employed by five U.S.-based firms, principally Motorola and National Semiconductor (3,000 jobs).

Semiconductor Firms in Scotland, 1985

<u>Ownership</u>	<u>Number</u>	<u>Employment</u>	<u>Percentage</u>
USA	5	4,060	92.5
Japan	1	230	5.2
Scotland	1	100	2.3
TOTAL	7	4,390	100.0

The smaller semiconductor producers in Scotland sell low-volume products to the British and European weapons industries; they have Scottish plants to maintain close relationships with their customers.

The larger firms set up plants in Scotland in the early 1970's largely to penetrate the protected European Economic Community market. Today, however, they ship products worldwide.

Though Edinburgh University has spun off several independent chip design houses, only two U.S. firms operate design centers in Scotland. None carry out research and development or mask-making in Scotland. Scottish plants conduct wafer fabrication, and most (like U.S. plants) ship wafers to Asia for assembly and packaging. Motorola, however, assembles its high-end products in an automated facility in Scotland, and it plans eventually to assemble there all its Scottish-fabricated chips. NEC and subcontractor Indy Electronics also do automated assembly in Scotland.

Engineers and technicians make up about one quarter of the workforce at the large, commercially oriented firms (National and Motorola). At smaller, specialized houses such as Hughes Aircraft about third of the workers fit those categories. The pay

received by engineers is about 40% of their counterparts' salaries in Silicon Valley.

Despite Scotland traditionally strong labor movement, not one semiconductor plant there has ever been organized. Henderson offers three explanations: Companies hire young women for production positions; many firms practice "creative industrial relations" and pay above average; and nearly all companies have located in new towns.

To serve the chipmakers, nearly forty specializing suppliers or equipment, raw materials, and services have located in Scotland. Still, Scottish semiconductor plants buy most of their supplies and equipment externally.

(Most of the material in this article comes from Jeffrey Henderson, "Semiconductors, Scotland and the International Division of Labor," August, 1986, Centre of Urban Studies and Urban Planning, University of Hong Kong.)

THE U.S. AND JAPAN: COMPETITION OR COOPERATION

As we have observed before, all the talk about the Japanese threat to U.S. leadership in high technology obscures the fact that trans-Pacific cooperation outweighs competition. High-tech remains an extremely competitive industry, but competition remains primarily between companies or groups of companies, or perhaps between IBM and nearly everyone else. Three recent reports illustrate the links between U.S. and Japanese producers:

- Fujitsu, which gave up plans to buy Fairchild Semiconductor when faced by opposition from members of the Reagan cabinet, still plans to conduct wafer fabrication in the U.S. It has announced plans to build a \$70-million chipmaking facility in Gresham, Oregon. Meanwhile, National Semiconductor, which reportedly urged that the government discourage the Fairchild sale to Fujitsu, has picked up money-losing Fairchild at a fire sale price, well below what Fujitsu offered.

- When a Toshiba subsidiary and Norwegian partner were caught exporting embargoed machine tools to the Soviet Union, hardliners in Congress proposed legislation banning the sale of all Toshiba products from the U.S. market. The Pentagon passed over Toshiba in awarding a \$100 million lap-top computer contract. Japan-bashers in Washington saw an opportunity to teach Japanese industry a lesson.

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Global Electronics

The dust has not settled yet in Washington, but it appears that Toshiba's long-term strategy of developing strategic alliances with U.S. firms and investing in U.S. factories will pay off. **Business Week** (September 14, 1987) reports, "The company has waged a textbook crisis-control effort involving not only heavy-hitting lobbyists but also grassroots support from across the U.S. American companies that either buy from Toshiba or supply components to its six U.S. factories have rallied to its defense." Though clearly a Japanese-run industrial group, Toshiba has built its U.S. payroll up to 4,200 employees. **Business Week** mentions two key American backers: "Apple Computer Inc, which imports a popular printer from Toshiba, and Honeywell Inc., which buys semiconductor chips from Toshiba."

• In theory, the Reagan administration's April sanctions against Japanese electronics imports were carefully aimed to punish Japanese companies believed to have dumped memory chips in the U.S. However, the web of commerce and technology linking U.S. and Japanese firms proved much too complex. IBM was hit by a ricochet.

The U.S. Customs Service has ruled that Japanese-made "motherboards," (central processing printed circuit boards) for the best-selling

model in IBM's new PS/2 microcomputer line are subject to the sanctions—that is, a 100-percent tariff. Though IBM also makes the board in the U.S., it reportedly had ordered \$30 to \$40 million worth from Matsushita. Now, it appears, IBM will have to pay double.

U.S. MITSUBISHI WORKERS ORGANIZE

Ironically, the first successful union organizing drive at a U.S. semiconductor plant—other than those owned by AT&T—*may* come at a Japanese-owned facility. On September 3, 160 workers at Mitsubishi Semiconductor's production facility in Durham, North Carolina were scheduled to vote on whether the International Brotherhood of Electronics Workers should be recognized as their bargaining agent. The union submitted a petition for an election in June.

The **Durham Morning Herald** (July 30, 1987) describes two key factors in the union drive. First, the company instated 12-hour shifts to keep expensive new fabrication equipment working around the clock. Second, according to union officials, the average pay at Mitsubishi is \$7 an hour, compared to \$8.81 in the area.

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94041 USA