

U.S. Computer Firm Brings in Soviets to Spur Technological Innovation

The chairman of the Control Data Corporation, a major competitor of IBM Corporation, told a Washington, D.C. press conference this week that his firm had decided to sponsor series of public seminars this month and next with visiting Soviet specialists in advanced computer technology — primarily “because technological progress in the U.S. is now proceeding at an appallingly slow rate.” William Norris, under whose chairmanship Control Data Corporation has signed important trade agreements with the Soviet Union, emphasized that “technological innovation” is the answer to the major problems of the economy and environment, and that U.S. scientists and industrialists had a great deal to learn from the Soviet Union on this score.

The press conference, conducted jointly with the Soviet specialists who will participate in the seminars, was attended by a full complement of press, and industry representatives from DuPont, Honeywell, Mobil, Allis Chalmers, U.S. Steel, Gleason, Pullman, Phillip Morris, Foxborough Intrustments, Union Carbide, TRW Corporation, Cities Service, Midwest Research, Monsanto, 3M Corporation, the Federal government’s Livermore Laboratories and eleven others.

Under the title “Process Control Technologies in the Soviet Union,” three seminars will be held in late January and early February by three Soviet experts and staff members of the Control Data Corporation’s Institute for Advanced Technology, all chaired by corporation vice-president Robert Chinn.

Mr. Norris’s remarks motivated the high-technology East-West exchange which the seminar series is designed to promote. “Expanded U.S.-Soviet cooperation is urgently needed to facilitate more timely solutions to the great problems of today,” he told the gathering. “For example, unemployment. The well-spring of new jobs is technological innovation.” He rebuffed reporters’ questions which implied that technology eliminated jobs.

“The pace of creating new technology in the U.S. is slowing down,” Mr. Norris continued. “That is the crux of our problem...In addition to its link to unemployment, the level of technological innovation in the U.S. is not nearly adequate to solve soon enough the other urgent problems we face — energy, food, environment, materials, water shortages, and better health care...”

“It needs to be stated clearly that throughout these seminars we will be talking about multitudes of practical, commercial, non-strategic technologies of a nature that need not alarm anyone concerned with our national security. In fact, the economic strength to be gained from U.S. industrialization of this Soviet technology bolsters the most basis elements of national security:

increased employment, productivity, and a rising gross national product. A strong industrial base is the greatest asset of U.S. defense.”

Mr. Norris emphasized that Soviet strengths lay in their commitment to *basic research*, and that this focus in Soviet programs had led to such a large number of significant advances that the Soviets were extremely anxious “to find Western partners to develop commercial applications for their laboratory work.” He decried the de-emphasis of basic science in the United States, which he said was in part responsible for the incompetence with which most U.S. observers have evaluated Soviet technological capabilities.

“Total research and engineering effort in the Soviet Union is larger than that in the U.S. Interestingly, there is more emphasis in the Soviet Union on research in contrast to the U.S., where the most emphasis is on engineering to apply the results of research... The barriers to expanded cooperation, political and cultural, are not nearly as important as the tendency here in the U.S. to deprecate the quality of Soviet technology. This barrier has its roots to a considerable extent in the way in which Soviet research is organized and conducted. The Soviet approach emphasizes the creation of knowledge and experimental results. Also, most of the research and preliminary development effort is performed in the specialized research institutes which usually are geographically and organizationally isolated from the manufacturing enterprises. Hence, most Soviet research results are not highly visible, making it more difficult to identify commercial applications and in turn, to assign specific commercial values. As a result, U.S. industry for the most part is making superficial evaluations and misjudging the potential of Soviet technology.”

The potential of Soviet technology is large. Not only have the Comecon countries developed a powerful computer industry — the Soviets themselves increasing manufacturing output three-fold since 1971 — but, as a Control Data Corporation spokesman noted, “in fusion power, they’re quite a bit ahead of us.” William Norris reported the U.S. is at a growing strategic disadvantage with respect to Soviet technological development in several key areas; he left unsaid the obvious conclusion that continuation of Defense Department classifications and embargoes against high-technology exchange of ideas and expertise will constitute deliberate economic warfare against U.S. industry itself.

What the Soviets Have to Offer

By contrast with the consumer-oriented (pocket-book size) widgets and wadgets used by IBM and Texas In-

struments, Inc., an aborted realization of U.S. computer technology, the Comecon sector's emphasis has been industrial growth, and innovations in computer technology for such fundamental industrial applications as *process control*. The Soviet sector has successfully effected improvements in computerized monitoring and re-ordering of the phasal parameters of large-scale industrial processes. This has included improvements in the transducer, the measuring device which translates aspects of a pesticides production process — alloy inputs, heat and pressure changes, for example — into electronic impulses which can be interpreted and acted upon by the computer to re-order the process.

Among the topics of the U.S. seminar series which Control Data Corporation is sponsoring will be Soviet development of new semi-conductor technologies which increase the speed for "real-time" applications of transducers. The Soviet specialist, Dr. Boleslav Volter, will explain the workings of East Germany's "Polymir 50" polyethylene plant, now in operation for two years and whose design, incorporating the most advanced high-level process control, was recently purchased by the West German firm, Salzgitter.

The plant's computerized monitoring system could only be built after Soviet and East German specialists had successfully developed a finely-tuned computer simulation of ethylene polymerization.

Dr. Boris Timofeev will discuss another successful Soviet process-control application, a hierarchical monitoring and re-ordering design developed for a steel-rolling mill complex which produces wide-flange I-beams. The design permits not only the normal control over the production process point-by-point, but monitoring and control on a second level for the efficiency of the first level automated devices.

The past five years' rapid development of the Comecon

computer industry has occurred according to a single, sector-wide plan for design and manufacture, called RIAD. The plan encompasses a wide range of models and types, from the smaller machines used in process control to the large and powerful RIAD 1060, initiated in June of last year and capable of 1.5 million operations per minute.

This diversity of Comecon computer output has been specifically designed for compatibility with Western "peripherals." The Soviet sector's development of a computer industry has had as its first objective a diversity of machinery for sophisticated industrial applications to Soviet and Eastern European manufacturing as it exists. The second and principal objective has been to facilitate high-technology East-West trade for *co-development* of the sectors' respective industrial economies through compatibility of their "frontier" industries.

Control Data Corporation leads U.S. industrialists in recognition of this policy, selling one of its Cyber model computers to the Soviet Union, licensing Poland to manufacture its magnetic disk units, and purchasing a RIAD 1040 model for its own study and use. (International Computers Ltd. of Great Britain has similarly licenses Poland to manufacture its model of printers, which are compatible with the Polish ODRA 1305.) With the support of the Soviet government, Control Data Corporation is now conducting its first round of joint seminars with Soviet specialists in the U.S. to force general recognition of East-West development potentials on American industry. And according to one of the corporation's spokesmen, the penetration of "Naderism" and "zero-growth" strains of "environmentalism" into the White House in Washington means that "it's high time the rest of the electronics industry came out of the closet."