

## SCIENCE AND TECHNOLOGY RELATIONS

### ISSUE

The economic recession in Japan is having an adverse effect on R&D spending in the private sector. Japanese industry may seek to pick up the slack in the technology development activities through increased domestic and international technology partnerships. Canadian companies willing and able to seek such partnerships may find more doors open to them than in the past.

### BACKGROUND

Japan's total R&D spending in fiscal 92 amounted to 13,909.5 billion yen, up only 1% from the previous year, the slowest growth rate in over a decade. Government agencies remain committed to increasing their science and technology budgets to fund research and development projects - by 5.5% in 1992, 6.2% in 1993 and 6% in 1994. In fiscal 92, while outlays by universities and research institutes on R&D rose 7% and 9.4% respectively, industry spending fell by 1.9%. Since non-government sources accounted for 80.5% of total spending and the industry sector alone for 68.7%, the effect is far-reaching. Falls in specific sectors (electronic, automotive, chemical industries) will probably approach double-digit levels.

Japanese industry may seek to pick up the slack in the technology development activities through increased technology partnerships. Furthermore, technology life cycles are becoming incredibly short. Long term research planning is reserved for core technologies which can provide a wide range of potential uses. And to reduce the risk of technological dead-ends, Japanese firms are reaching out to strategic partners to keep their fingers in as many technology pies as possible.

In Japan, medium and long term priorities for technology development are set first, then research programs are developed to address those identified needs. As a part of the implementation strategies, international collaboration is sought in those areas where Japan is weak.

The Japanese government has proposed several international scientific research projects in order to expand its contribution to global scientific research. However, Japan's non-financial contributions to its advance are likely to remain modest, hampered in the near term by the weakness of Japan's basic research capabilities in many areas. Japan's proposed Intelligent Manufacturing Systems (IMS) project, however, focuses on an area (advanced manufacturing process technologies) in which Japanese firms are in a leadership position and to which they could make significant contributions. IMS' goal is to develop a global standard for a computer system, language interface that would cover all aspects of manufacturing, from design and production through distribution.