

The Japan Science and Technology Fund (JSTF)

The JSTF is a five-year \$25 million fund to promote joint scientific and technological research and development, and to help create strategic partnerships in sectors of Canadian priority. The JSTF encourages activities that are part of longer-term strategies within Canadian research organisations. It is managed jointly by External Affairs and International Trade Canada, Industry, Science and Technology Canada and the Natural Sciences and Engineering Research Council of Canada.

Program Components

The JSTF is open to individual Canadian scientists and engineers, including permanent residents, and to Canadian research organizations from industry, universities and government. The Fund supports activity across the research spectrum - from basic research to pre-commercial technology application projects, under three separate programs:

Researcher visits - visits of up to four weeks to Japanese institutions or companies, to initiate co-operative activity or to enhance existing co-operation. Such visits must demonstrably be the next logical step toward the development of collaborative activity;

Research exchanges - support for Canadian researchers working in Japanese private-sector, university or government research facilities, for 6 to 18 months. In some cases, support may be provided to post-doctoral researchers participating in a Japanese-funded exchange program;

Bilateral R & D projects - support for Canadian component of new or expanded collaborative projects, where the Japanese partner is providing essential expertise or facility, or in which the risks and benefits are shared with a Japanese partner in developing the knowledge base needed for new or improved products or processes.

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The trouble is, technology transfer agreements and strategic alliances can sometimes be awkward to manage, and some Canadian exporters are too intimidated to tap into the Japanese knowledge base.

Other Canadian entrepreneurs have learned they can ease their way into rewarding relationships with the help of the Japan Science and Technology Fund (JSTF).

Dr. Gary Albach, executive vice-president of Vortek Industries in Vancouver can help shed some light on the matter. Vortek designs and manufactures what are listed in the Guinness Book of Records as the world's brightest lights—very high-power lamps for industrial applications and aerospace industries.

Vortek's core business traditionally has been with the aerospace industry for high temperature testing of aerospace components. "The light from a Vortek lamp is like a laser," explains Dr. Albach. "It's beamed onto the surface of materials to heat them to high temperatures; we sell them to NASA and their subcontractors for simulating the heat of re-entry onto nose cones and that sort of thing."

Vortek has been expanding its business by applying its technology to industrial manufacturing. High temperature heating, for example, can be used for applications such as hardening steel, and for applying metallic surface coatings.

"The JSTF helps us work closely with Japanese steel mills and users—such as the automotive industry—to develop new processes for hardening steel and alloying the materials," says Dr. Albach. Vortek has a joint venture in Japan with a trading company called Aichi Sangyo, which is involved in welding and high temperature engineering. Vortek is also involved in industrial laser development with another large Japanese company.

"We are not in the business of

offering advice," says Dr. Albach. "But look, we are in the second year of our JSTF project with Aichi Sangyo and it is going extremely well. You really have to go over there and be there. That seems to be the key—just spending time in that environment with the Japanese. They're very willing to do business; in fact they welcome it.

"And take a long look at the JSTF. The program certainly helped us—not only in terms of providing funds, but also by giving us a certain amount of credibility. The Canadian government's involvement—from the Japanese side they see that as a stamp of approval, and that can be vitally important, particularly for a smaller company. The funding, of course, is important, but I would say equally as important is the credibility."

Other JSTF-backed initiatives have an eye to the long-term future competitive viability of Canadian industry. Focusing on the future has been the Japanese way to success, and the JSTF can help companies emulate it.

For example, it will take time for the Quebec City-based National Optics Institute's Japanese cooperative research initiative to pay off. But there is no way to hurry the kind of research underway that will ultimately serve to significantly bolster this Canadian knowledge-based industry's prospects.

Says Dr. Denis Gingras, of the National Optics Institute, "The project that JSTF is funding is on the optical implementation of artificial neural networks—optical information processing. It's almost basic research because this kind of technology is new, rather complex, and mainly oriented towards mid-term and long-term future applications. The technology is not mature, not ripe enough yet for industry transfer."

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