

INNOVATION / PATENTS / ARCHITECTURE

The mother of invention

Canada is not a world leader in applying for patents, **PAUL LIMA** writes. But companies with innovative products say they are key to securing their business

How much is a patent worth? If you are Star Navigation Systems Group Ltd., it is your entire business.

The proof became evident after the company was awarded its first patent, in 2005. It signed about \$17-million in orders for its in-flight safety monitoring system (ISMS).

In January 2006, the Toronto-based company secured its second patent, from Hong Kong, and based on that has forecast an even more successful 2006, said Viraf Kapadia, chairman and chief executive officer of Star Navigation.

"When you have a product that flies through the airspace of a number of countries, you want patent protection in each of those countries," Mr. Kapadia said. Initially, he focused on gaining patent protection in Britain, Hong Kong and North America so no company that tried to break the patent could fly through airspace over those locales.

"Securing patents is a key strategy in maintaining Star Navigation's proprietary advantage" with the ISMS system, the first in the world to provide in-flight data monitoring and diagnostics with a real-time, secure connection between aircraft and the ground, Mr. Kapadia said. "We could not run this business without the patent. Each patent makes us stronger."

However, when it comes to filing patents to protect intellectual property, Canada lags behind other countries.

With 2,193 patents applied for in 2005, Canada ranked below Germany, China, Russia, Britain, Taiwan, Italy, Australia and Brazil, and just above Sweden and Spain, according to Thomson Scientific, part of the scientific and health care market segment of Thomson Corp.

Why the average performance? "Canada is a resource-based nation lacking the technology-intensive nature of smaller countries like Finland and Sweden," said Thomas Keil, assistant professor, entrepreneurship, with the Schulich School

of Business at York University in Toronto. In addition, Canada has many branch plants, and patent applications are usually generated by head offices, he said.

"Patents and copyright are central mechanisms to foster innovation," Mr. Keil said. "Patents are the only tangible thing a small firm or inventor owns. With few resources and personnel and no brand, patents may be all they have. They are one of the motors that keep innovation going."

The patent gives the inventor or the patent-holding company protection for about 20 years from the date of application. During that time, the patent holder can use the exclusivity of the patent to raise funds required to take the product to market or sell the licence to a larger company that might be better able to market the product.

Things are looking up for Canadians, however, according to Andrew Currier, senior associate and patent attorney with Torys LLP in Toronto and an adjunct professor of patent law at the University of Western Ontario in London.

"I am seeing more businesses at the start-up phase with an intellectual property strategy in place," Mr. Currier said.

Cases such as the recently settled patent infringement suit against Research In Motion Inc., the maker of the BlackBerry handheld wireless device, have led to greater awareness of the importance of using patents to protect intellectual property. "High profile cases like RIM seem to be the only way that patent education is raised right now," Mr. Currier said.

In addition, the statistics might not accurately reflect Canada's patent application standing, as Canadians often file for patents only in countries where they plan to launch and market their products. They are also more inclined to file for patents in countries where they perceive that their fiercest competitors exist — particularly the U.S.



KELLY TAYLOR/THE GLOBE AND MAIL

Viraf Kapadia, chairman and chief executive officer of Star Navigation Systems, has built the business on patents secured from around the world.

Patents by country

Canada ranked 13th among nations for patent applications in 2005:

1. Japan, 300,623
2. United States, 149,936
3. South Korea, 32,521
4. Germany, 47,651
5. China, 40,821
6. Russia, 17,384
7. France, 11,394
8. Britain, 10,378
9. Taiwan, 4,973

10. Italy, 3,724
 11. Australia, 3,456
 12. Brazil, 3,287
 13. **Canada, 2,193**
 14. Sweden, 1,693
 15. Spain, 1,937
 16. Netherlands, 1,402
 17. Finland, 1,220
 18. Austria, 1,263
 19. Switzerland, 873
 20. Denmark, 836
- Source: Thomson Scientific

and Europe.

While the exact number of patents applied for by Canadians around the world is not known, if companies like Lee Valley Tools Ltd. in Ottawa, Canica Design Inc. in Almonte, Ont., and Star Navigation are any indication, Canadians are protecting their intellectual property on the world stage.

Lee Valley Tools has close to 100 patents, most issued in the United States, some in both the U.S. and Canada and some in other countries where woodworking is popular, said founder and chairman Leonard Lee. Applying for patents in the U.S., Lee Valley's largest market, makes sense because it protects products against patent-infringing imitations. Lee Valley re-

cently won patent cases against a German manufacturer and a U.S. mail order firm. "The cases took years to settle. A smaller firm would not have had the resources to see it out," Mr. Lee said.

Applying for a patent in a country where you will not sell your products, or where sales will be minimal, does not make sense because of the time and cost associated with the application process, Mr. Lee said. He has eight patents "that are being enforced" worldwide, including markets like China and Japan" for Canica, a medical instruments research, development and design company.

Canica patents its products worldwide because there is a global market for products such as its ad-

hesive bandage that can be applied to surgical wounds. An elastic centre draws together the edges of the wound to help the healing process and reduce scarring. Clear plastic lets doctors see whether there is infection without removing the bandage. Without a patent, competitors could reverse-engineer the product and "take it to market in months," Mr. Lee said.

The process to obtain patents is a challenge, especially if you want to patent internationally, Mr. Keil said. It can take several thousand dollars and two to four years from application to the time the patent is granted. However, the idea is protected — patent pending — from the moment the application is filed.

Without patent protection, a company "with big dollars could do a knock-off of our high-tech products before we get going," said Mr. Kapadia of Star Navigation. "They could stifle us and we've taken all the risks and paid start-up costs. Without patent protection, R&D and innovation would be stifled."

We tend to forget that the patent system goes back to the origins of the free market economy, Mr. Currier said. "Competition is a good thing, but patents are there as an important tool for innovation."

Because the application process and the rules for what can be patented are similar, but not the same,

in each country, Mr. Currier suggests that companies trying to patent ideas in Canada and the U.S. work with patent agents who are registered in both countries.

In addition, he would like to see greater global harmony in the processes and rules. But he is not talking only about inconsistencies in developing nations. For instance, he would like to see Canada clarify its rules on software patents and bring them into alignment with those of the U.S. to encourage Canadian software engineers to be more innovative and protect their ideas when they go to market.

When it comes to global patents, or patenting multiple products, "inventors need to strike a balance," Mr. Lee said. He has seen inventors spend their life savings patenting products that have no real market value.

"A patent is not a licence to print money. It is protection of an idea," he said. "You still need to have a business plan to take your idea to market."

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Information on patents in Canada is available from Industry Canada's Canadian Intellectual Property Office: http://strategis.ic.gc.ca/sc_mrksv/cip/otw/welcome/welcome.html