



## **Government of Canada Invests in Nanotechnology Coatings for Joint Strike Fighter Program**

OTTAWA, September 3, 2008 — The Honourable Jim Prentice, Minister of Industry, today announced federal government support for the research and development (R&D) of next-generation nanotechnology-based coatings for the multinational Joint Strike Fighter (JSF) program.

"Prime Minister Harper and the government recognize the world-class ability of our aerospace and defence industries to conduct innovative R&D," said Minister Prentice. "Our partnership with Integran Technologies Inc. demonstrates our commitment to science and technology, and to helping Canadian companies remain on the leading edge of such a competitive industry."

Based in Toronto, Ontario, this project will expand Integran's technological capabilities in composite tooling. The project aims to develop a hard metal coating called Nanovate NV™ (Nanovar) to apply to aerospace tools to improve tool lifespan and durability, and to achieve cost savings. The Government of Canada is contributing a \$4.6-million repayable investment to the project.

"As a research-based company, Integran is committed to staying at the forefront of nanostructured material technologies," said Dr. Gino Palumbo, President and CEO of Integran. "Our partnership with the federal government and the JSF program will help us sustain our position as a leading international player within the growing nanotechnology sector."

Integran will also collaborate with University of Toronto graduate students on this innovative nanotechnology R&D project, supporting knowledge transfer in the region.

"Participating in this project will allow our young innovators to gain hands-on professional experience with one of Canada's most exciting and innovative companies, and together they will become conveyers of advanced knowledge and technology to Canada's aerospace industry," said Doug Perovic, professor and Chairman of the Department of Materials Science and Engineering at the University of Toronto.

This investment is being made through the Strategic Aerospace and Defence Initiative (SADI), which supports strategic industrial research and pre-competitive development projects in the aerospace, defence, space and security industries. SADI is managed by the Industrial Technologies Office, a special operating agency of Industry Canada, whose mandate is to advance leading-edge R&D by Canadian industries.

The Government of Canada's participation in the JSF program makes it eligible to benefit from preferential conditions and advantages reserved for JSF partners; however, this participation does not commit it to purchase the aircraft.

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## Background

### **Minister of Industry Announces \$4.6-Million Repayable Investment in Nanotechnology Coatings for Joint Strike Fighter Program**

The Government of Canada is investing \$4.6-million in Integran Technologies Inc. of Toronto, Ontario, for the research and development (R&D) of next-generation nanotechnology-based coatings for the Joint Strike Fighter (JSF) program.

Nanotechnology is a science that manipulates the size and assembly of molecules and atoms to make novel devices and materials 100 nanometres or smaller. Integran is developing Nanovate NV™ (Nanovar), which is a very hard nanometal surface coating for carbon fibre reinforced plastic (CFRP) aerospace tools, designed to protect them from damage. These CFRP tools will be used to form and shape the various parts of an airplane. The coating will be very useful to the JSF program, since the coating is intended to improve the durability and lifespan of composite tooling and to reduce costs.

The aerospace industry requires a large investment in tooling to manufacture advanced structural CFRP components, and the projected outcome of the Integran project is to provide long-term reliable service to the aerospace and defence industries. The technology has the potential to move the aerospace composite industry into the next generation of composite moulding capabilities.

This investment in R&D demonstrates the Government of Canada's commitment to innovation and promoting prosperity for all Canadians. In addition to reaping the technological benefits resulting from improved technologies for composite tooling, Integran will be collaborating with the University of Toronto's graduate program in materials engineering. Students will gain hands-on experience, and the opportunity will foster knowledge and technology transfer in the region, contributing to a strong workforce in Canada.

The JSF program is a U.S.-led multinational effort to build an affordable and multi-role fifth-generation stealth fighter aircraft. In February 2002, the Government of Canada signed a memorandum of understanding with the United States Department of Defense, signalling the beginning of Canadian participation in the JSF program, which provides the Canadian aerospace industry with access to the largest international defence contract ever awarded.

In 2006, Canada continued its participation in the JSF program by signing the Production, Sustainment and Follow-on Development Memorandum of Understanding. This Memorandum of Understanding is a roadmap that details the rules that Canada would follow should it elect to buy, sustain and further develop the aircraft. Canada's participation in the JSF program makes it eligible to benefit from preferential conditions and advantages reserved for JSF partners, should Canada decide to purchase the aircraft.

Integran is a privately owned, metallurgical applications engineering company with 35 employees and is a leader in advanced nanotechnologies.

The Strategic Aerospace and Defence Initiative (SADI), launched in April 2007, supports private sector industrial research and pre-competitive development in Canada's aerospace, defence, security and space industries through repayable investments. For more information about SADI, please visit the [Industrial Technologies Office website](#).