



**FOR IMMEDIATE RELEASE**

**Calgary Company Among Recipients of \$2.8 Million  
in Funding for Development of Intelligent Systems in Alberta**

*Precarn funds first-of-their-kind innovations*

**Calgary, Alberta – December 11, 2008** – Calgary-based Calgary Scientific Inc. is among the recipients of \$2.8 million in funding for the research and development (R&D) of first-of-their-kind intelligent systems technologies in Alberta.

The funding is being provided by Ottawa-based **Precarn Incorporated**, a not-for-profit company representing a national network of corporations, universities, colleges, research institutes and government partners engaged in the development of enabling technologies. Under the program, which is administered by Precarn, Alberta companies and academic organizations will commercially develop or advance innovative made-in-Canada advanced technologies.

As part of the program, a total of six projects were awarded, selected from a pool of 15 proposals. The remaining five companies are based in Edmonton. With support from Precarn, project leaders of Alberta-based companies will have the opportunity to work not only with other Alberta research organizations, but also with researchers and business partners from across Canada. The goal is to help organizations province-wide become more productive and globally competitive by working in collaborative teams to develop advanced technological solutions that meet industry needs.

**Calgary Scientific Inc. (CSI)** – in partnership with the **University of Calgary Imaging Informatics Lab** and **Calgary Health Region**, and supported by a \$600,000 infusion from the Precarn program – is developing a product that uses medical imaging to identify and characterize brain tumours with a high degree of accuracy, removing the need for invasive surgical biopsies. CSI's unique 'virtual biopsy' relies on three underlying developments: image fusion, the ability to merge two different magnetic resonance (MR) images in three-dimensional space in order to compare differences over time; tumour segmentation, the ability to separate cancer cells from normal tissue in order to better judge tumour

size; and, cancer characterization, the ability to discern the genetics of tumours (identifying one type from another) with 95 percent accuracy using mathematical analysis of images. Right now the research and commercialization effort is focused on Gliomas – the most common form of brain tumour in adults – but the technology can apply to other types of cancers as well. Patients will benefit from virtual biopsies because they can move straight from diagnosis to treatment, avoiding the risk of a surgical biopsy.

Precarn is supported by the **Alberta Ministry of Advanced Education and Technology** and **Western Economic Diversification Canada**.

“We are very pleased to have the participation of the Alberta Government and Western Economic Diversification Canada to further the research, development and application of advanced technologies as a means to build a solid economic foundation for Alberta and Canada,” said Anthony Eyton, President and CEO of Precarn. “This collaborative effort demonstrates Precarn’s commitment to expand its network through partnerships, and has resulted in Precarn opening its first satellite office in Edmonton, under the direction of Peggy MacTavish, Precarn Vice President for Western Canada.”

“The Province of Alberta and Western Economic Diversification Canada saw exceptional value in the Precarn model for funding R&D projects that have the potential to underpin economic development and diversification,” said MacTavish. “Precarn’s model, national network and true partnership programs and projects attracted the attention of Western Canadian governments allowing Precarn to expand its office and programming with an Alberta partnership.”

Details of the remaining five projects follow:

***Automated Genetic Toxicology Assay:*** Before a new chemical or pharmaceutical can be approved for general use and introduced to the marketplace, it must undergo rigorous testing, including genetic toxicity testing. Normally, such testing is carried out in a large-scale lab environment, where cells are subjected to the proposed chemical, manipulated and then examined to ascertain DNA damage. With an infusion of \$105,000 from the Precarn program, **PBR Laboratories Inc.** of Edmonton – in partnership with the University of Alberta – is developing a more cost-effective method of genetic toxicology testing that will use biochips and advanced technology systems to develop a high throughput screening system. The chemicals and testing agents will be placed onto specially designed biochips that contain microscopic slots, channels and reservoirs, and the testing will be carried out in an automated fashion using integrated control systems. By reducing the number of human interventions required, the proposed automated genetic toxicology test will produce more accurate results. It will also be faster and less expensive than traditional testing methods that require greater amounts of chemicals and reagents. Future applications include drug testing for the evaluation of carcinogenic potential, environmental

testing of chemical spills to determine impact, and testing of patients undergoing chemotherapy to determine appropriate dosages of cancer medicines.

***Geometric Construction System:*** By automating up to 70 per cent of the work required to construct a building, **Innoviquity Inc. of Edmonton**, with the innovative support of Winalta Homes Inc. of Acheson, Alberta and Northern Alberta Institute of Technology, has created a faster, less expensive and more precise alternative to manual labour. The Geometric Construction System – which is receiving \$600,000 through the Precarn program – is a robotic intelligent system that produces floor, ceiling and wall panels, completely with heating, plumbing, electrical, insulation and a vinyl finish, using common building materials such as wood, steel or pre-formed concrete. Whereas it might take 15 manual labourers 4-6 hours to build a fully serviced floor system, the automated system can complete the same task in 30 minutes. Right now the system is being designed for use in factory settings but it is small enough to be transported via a shipping container for use on location at construction sites as well. The technology is expected to lower average construction costs by as much as \$20 per square foot, and will also help to alleviate manpower issues related to demand and the seasonal nature of the construction business.

***MAVIS:*** Just as virtualization (the sharing of computer resources so that one computer does the job of multiple computers) has revolutionized the modern, single-site data centre, the Multi-site Adaptive Virtualized Information System (MAVIS) from **Data Gardens Inc.** of Edmonton is changing the way computer resources – including servers, storage and software – are used across multiple geographic locations. The idea behind MAVIS, a proposed software platform for scheduling and managing traffic flow between multiple information systems over the Internet, is to allow computer resources to manifest themselves dynamically where and when they're needed. For example, if a company opens a branch office location and an end-user requires access to a specific software package, it can be made available through MAVIS just by clicking on an icon, with no need to install or manage software remotely. MAVIS will also anticipate changes to computer resources proactively so that if a server fails or a disaster occurs, resources will automatically switch over to a new configuration. Another advantage is that copies of the virtual resources – data mirrors – will be backed up and maintained from a single point of administration, even when hundreds of offices and thousands of servers are involved. Additional partners involved in MAVIS – which is receiving \$600,000 from the Precarn program – include the **University of Alberta** and **Stantec Inc.**

***Smart Autonomous Fluid Transport Asset Management (SAFTAM) System:*** The process of de-icing an aircraft before takeoff during inclement weather relies on precision. Before sending a truck out to service a plane, a dispatcher needs to know the fluid levels and the percentage of glycol to water in its tanks so that adjustments may be made according to outdoor temperature in order to be effective (the lower the temperature, the higher the percentage of glycol required). With a \$600,000 infusion from the Precarn program, groundbreaking research led by **Titan Logix Corp.** of Edmonton is aiming to improve current de-icing practices through enhancements to the company's Guided Wave Radar (GWR) technology, already proven effective as a "load buddy" to monitor liquid levels in crude oil tankers and aviation refuelers. Using radar pulses to measure levels, the technology is more reliable and less costly than traditional turbine flow meters. Titan is adding intelligence to the technology enabling the measurement of the concentration of glycol from the top to the bottom of a tank, providing a more accurate result than existing sensors that rely on spot measurements. The company is also addressing asset management with wireless technology to allow the dispatcher to coordinate the de-icing process between the truck and tower more effectively. By bringing automation to the de-icing process, the company is aiming to reduce the risk of ice build up. This provides a higher level of confidence that the

mixture in a tank is what the operators expect it to be and the automated recording and transmission of data reduces the likelihood of error and need for operator intervention.

**Wireless Channel Simulator: Ukalta Engineering Corp.** of Edmonton is helping manufacturers of wireless devices – such as cell phones and GPS devices – to build better products by enabling valuable testing to occur earlier in the product design phase. The most expensive phase of development is late stage testing which typically occurs outdoors, requires a final prototype to be built, and can cost up to 100 times the cost of early stage algorithmic design testing. With Ukalta’s Wireless Channel Simulator – a dedicated hardware device that simulates different environments – those tests can be performed on chipsets indoors before a final prototype is built, saving both time and money which translates to lower prices for consumers. Early stage testing also results in overall product improvements such as longer battery life, clearer audio, higher quality sound and greater operating efficiency. The academic partner working with Ukalta to develop the Wireless Channel Simulator – which is receiving about \$300,000 through the Precarn program –is the **University of Alberta** in Edmonton.

### **About Precarn**

Precarn is an independent not-for-profit company that supports the pre-commercial development of leading-edge technologies. Precarn works with Canadian companies who are seeking to commercialize their new ideas to get an edge in global markets. Unlike other research funding programs, Precarn uses a collaborative model that includes a developer, a customer and an academic research partner in every project. This collaboration accelerates development, reduces risk and shares the cost of R&D. Precarn provides access to an extensive national network of world-class researchers, innovative companies and sources of funding. Precarn receives support from Industry Canada, other federal departments and provincial government agencies, as well as private sources. For more information on Precarn, please visit [www.precarn.ca](http://www.precarn.ca).

- 30 -

### **Media Information:**

Gail Bergman  
Gail Bergman PR  
Tel: (905) 886-1340  
Email: [gbergman@gailbergmanpr.com](mailto:gbergman@gailbergmanpr.com)