



Accutrak Points Farmers in the Right Direction

Profitability in agriculture is a continuing challenge for the Canadian farming community—Accutrak Systems Ltd. of Regina, Saskatchewan is helping farmers to save money every time their tractors take to the field

“A farmer generally spends about \$100 per acre annually, so the 5-8 percent that he saves per acre in seed, fertilizer and fuel quickly pays for the Accutrak system.”

Ron Braden
General Manager
Accutrak Systems Ltd.



Dr. Ron Palmer (left); and Ron Braden (right). With 17 employees and revenues of \$2 million in 2004, the company has just released its third-generation product for farmers.

CMC Microsystems was there from the beginning. Dr. Ronald Palmer, professor of electronic systems engineering at the University of Regina, founded Accutrak in 1984 using Very Large Scale Integration (VLSI) microelectronics technology in the development of an autosteering system for tractors. The Accutrak innovation uses Global Positioning System (GPS) satellites to determine the straightest path and minimal overlap during ploughing, seeding, spraying and harvesting.

In 2003, Accutrak generated revenues of \$200,000 with the release of its first autosteering product, the OB3. In 2004, revenues climbed to \$2 million with the release of Accutrak's updated AX5 product. The company is forecasting even greater revenue growth in 2005.



Accutrak products minimize tractor overlap and course changes in the field, helping to save the average farmer time and money. Access to tools and technologies provided by CMC was critical to Dr. Palmer's early research at the University of Regina. These research results and key learnings contributed to the development and commercialization of the Accutrak technology.

Accutrak is releasing its third-generation AXL system this year, with a fourth version planned for 2006. With 17 full-time employees and globally competitive products, the company has secured customers in Canada, United States, Australia, Argentina, Uruguay, Paraguay, Kazakhstan, Ukraine, Russia, Germany and France.

Dr. Palmer credits CMC Microsystems for introducing him to the FPGA (field-programmable gate array) technology that he used to replace the VLSI devices. “CMC provides access to FPGAs and it really made a lot of sense for me to use programmable logic design,” he explains. “In our research, we replaced board after board with this one little circuit. It really helped to simplify the design, make it proprietary and harder to replicate. If I wanted to upgrade the design, I wasn't committed to a significant, one-time engineering cost.”

Ron Braden, General Manager of Accutrak, says the system minimizes tractor overlap and course changes in the field. Operators simply turn the corners at the end of a run, line up within four feet of the next run, and let go of the wheel. The hydraulic equipment and GPS technology work together to steer the tractor for maximum coverage.

He is enthusiastic about the value that the product provides to the average farmer: “Using a DGPS satellite signal, Accutrak's AXL system will line up to within nine inches of where it should be. This improves the productivity of our farmers. It is really amazing stuff.” *cmc*