Nova Scotia Coordinate Referencing System

NSCRS News

NOVA SCOTIA COORDINATE REFERENCING ▲ SYSTEM ▲

TCA Awarded for the Development of a GPS Compatible, Spatial Referencing Framework

Service Nova Scotia offers a diverse range of services through its programs to meet the needs of Nova Scotians. One of these programs is the Nova Scotia Coordinate Referencing System (NSCRS). Land is a valuable asset in Nova Scotia. The current property valuation is $98 billion, and every year almost $3.5 billion in property transactions occurs. Have you ever wondered how layers of geographic information such as property boundaries can be accurately recorded and displayed on a map? The NSCRS is the underlying infrastructure that allows all geographic information in Nova Scotia to be represented in a global coordinate system.

In the late 1970s and early 1980s, over 23 000 survey monuments were installed in Nova Scotia to provide a physical framework demarcating our coordinate system. All property surveys in Nova Scotia utilize the NSCRS so relate one property location relative to the next. Since they were installed, it has been estimated that over half of the monuments have been destroyed either through construction work or by other environmental changes. Additionally, the advent of GPS has exposed errors in the coordinate values of some of the monuments which were observed using older technology. The disappearing infrastructure coordinate distortions have made it very difficult for surveyors to relate property and engineering works.

Thankfully, technology has evolved to provide new opportunities and methodologies for SNS to deliver upon the NSACS program. In 2013, a test project was conducted in southwest Nova Scotia to evaluate the potential for active GPS corrections to be used to improve service delivery. The technology allows centimeter level positioning to be obtained in real-time wherever there is cellular coverage. The project was a huge success, demonstrating the potential to create million dollar efficiencies in other departments. It has also created significant efficiencies by local companies, allowing them to expand their operations.

This TCA project will allow the benefits of the technology to be realized across the whole province, including Sable Island where an additional station was recently installed. The technology allows tectonic movements to be precisely tracked, which allows for better climate change modelling. There are also tremendous opportunities relating to machine automation such as unloading containers at shipping

ports. The technology is already being used in Nova Scotia to guide grader's blades during road construction and drive farming equipment. The technology will also serve as a data feeder for the Province's Corporate Geospatial Infrastructure.

This project captures the essence of the recommendations of the Ivany Report. We had a problem to solve to address our client's needs with respect to spatial referencing. We embraced technology not only to address the problem, but to also create economic opportunities in other industries. The solution is a fraction of what it would have cost to address the problem using previously known methodologies. We have developed a higher accuracy product that is more accessible to Nova Scotians and that has a sustainable business model to support it.