



NORTH WEST GROUP

**SUBMISSION TO THE HOUSE OF COMMONS STANDING
COMMITTEE ON FINANCE
PRE-BUDGET CONSULTATIONS**

AUGUST, 2011

Executive Summary

The answers to the questions put by the House of Commons Standing Committee on Finance in its pre-budget consultation announcement – how to achieve sustained growth; how to create high paying jobs; how to achieve a balanced budget; and, how to do so in a way that allows Canadians and Canadian businesses to keep more of what they earn – lie in harnessing tools that incent productivity and promote better decision-making.

The North West Group, backed by its industry association – the Geomatics Industry Association of Canada – believes that strategically leveraging geomatics will bolster productivity and serve as a catalyst for creating well-paid jobs and sustaining economic growth in Canada.

To enable the broader application of geomatics to sound decision-making, we are calling on the Government of Canada – using existing funds from *GeoConnections Canada* – to take the first steps toward developing a National Geomatics Action Plan (NGAP). To lay the foundation for the NGAP, funds from *GeoConnections* should be directed towards supporting a series of pilot projects that would:

1. Allow for the deployment of modern, reliable and relevant IT infrastructure to serve as a national, open data portal for geo-spatial information.
2. Assess and evaluate current inventories of national mapping information and coordinate the procurement and acquisition of geo-spatial information where it may be lacking or of vintage quality.
3. Work with industry to establish consistent national guidelines, standards and protocols for aerial acquired geo-spatial information, ensuring the seamless integration and interoperability of consolidated imagery datasets.

Furthermore, we believe there are significant opportunities for innovation and savings to build reliable IT infrastructure and acquire geo-spatial data by re-allocating and leveraging a portion of *GeoConnections'* \$30 million to form direct partnerships with industry and supported by private sector investment. It would be essential to develop this relationship in a self-sustaining manner for the benefit of all Canadians; public and private alike. The Canadian geomatics industry has a wealth of experience working with governments spanning the globe using alternative funding arrangements, such as P3s.

Once the Government of Canada has determined that it is securely on track to a return to balanced budgets, and assuming the pilot projects are successful, we would advocate the full implementation of a National Geomatics Action Plan.

Introduction

The North West Group is pleased to participate in the House of Commons Standing Committee on Finance's pre-budget consultations as the Committee considers its recommendations to the Minister of Finance for inclusion in Budget 2012. We are aware of the fiscal constraints facing the Government of Canada as well as the Committee's sensitivity to those constraints. That is why we are not asking the Committee to recommend new expenditures on geomatics at this time. We believe that current resources can be applied to the National Geomatics Action Plan that we recommend below.

Who We Are

The North West Group (NWGeo) is one of Canada's leading geomatics firms. We are an innovative business based in Northeast Calgary, but we do business around the world that employs 55 Canadians in the high-value knowledge based sector. While geomatics encompasses a broad range of services at the North West Group, our main business is aerial mapping data acquisition. We provide these services to a variety of public and private sector clients including government departments and agencies at all three levels, engineering firms, environmental consulting firms, resource companies, and countless other organizations that use aerial imagery to support their critical decision-making processes.

As a matter of business practice we continuously reinvest in our company and we develop, in-house, new technologies. Our commitment to excellence and innovation has made us a global leader and it is what allows us to provide enriched geo-spatial information that enables our customers to make sound decisions that lead to cost savings, greater efficiency, and enhanced productivity.

About Geomatics

What is geomatics? Why is geomatics and mapping important? What is the state of Canada's mapping information?

Geomatics involves digitizing data into maps – making maps “intelligent” – providing public and private sector users with critical decision-making information such as traffic flows, population densities and growth, crime hot spots, and floodplain data. Such crucial information enables organizations to create customized products and services, become more efficient, reduce energy consumption, and – generally speaking – improve their decision making and planning processes, leading to stronger and healthier communities.

Location-based information is essential to almost everything we do, such as new infrastructure construction, resource exploration and development, environmental management, and emergency response, to name a few. Poor decisions can have devastating effects on the economy and the environment. Without the most current and leading-edge tools to accurately reference data and information geographically, activities and decisions cannot be executed effectively.

Having access to an inventory of current, accurate and consistent coast-to-coast-to-coast aerial acquired mapping is the essential underlying component that enables Canadian businesses and all levels of government to effectively harness and apply geomatics to their decision-making process. Unfortunately, public and private sector organizations are unable to leverage geomatics to their advantage in Canada

because the underlying, or base layer, of mapping information required to perform geomatics is often outdated, inaccurate, and lacks national coverage.

In Canada, much of our landmass suffers from a base data set that is 20 to 50 years old, created from a variety of technologies (all outdated by today's standards) and the resolution and level of accuracy is inadequate. Over 93% of Canada's maps have a vertical accuracy of greater than 10m, a standard that is woefully inadequate for decision making. Topographic maps for the North, an intense area of interest for sovereignty and economic development purposes, are 15 to 30 times less accurate than the GPS unit used by the outdoor recreationalist.

The "solution" to use Radarsat satellite imagery for the North cannot be viewed as a replacement for aerial acquired geo-spatial imagery for a variety of reasons; satellite generated imagery is expensive; acquiring images can be hampered by weather conditions that lead to poor visibility; and, vertical and horizontal accuracy from satellite imagery is often no better than the dated maps already in use.

Finally, there is no sustained federal funding to acquire digital imagery and elevation models and no national plan to coordinate data collection. The result is that governments, the private sector, NGOs and other stakeholders must fund the majority of new digital maps generated in Canada. Mapping information is therefore acquired in an *ad hoc* manner without a common national approach and standards, resulting in an inconsistent patchwork of geo-information.

With mapping information acquired piecemeal, end users, including the Government of Canada, make critical decisions using information that does not provide uniform national coverage, is of varying quality and is insufficient for many applications. This leads to higher costs to taxpayers, needless duplication, bad planning decisions and, therefore, poor public policy outcomes.

The Economic Case for a National Geomatics Action Plan

Canada's OECD counterparts fully grasp the importance of geomatics as "21st Century infrastructure" and accept the role of government to take a leadership position in acquiring current, consistent and accurate geo-spatial information. Organizations in the United States, Australia, the United Kingdom, New Zealand, France, India, the Netherlands, and Japan are allocating public funds to coordinate national geomatics strategies and acquire base mapping information. They have leveraged these efforts to spur innovation and productivity and become more competitive in the global marketplace.

For example in Australia, which shares many economic and social characteristics in-common with Canada, a study examining the aggregate economic impact of geomatics to the Australian economy in 2006 found geomatics and geo-information contributed between \$6.43 and \$12.57 billion per year in GDP—equivalent to 0.6% and 1.2% of GDP.

To translate the results into a Canadian context, in 2010, Ian Lee, PhD, MBA Director of Carleton University's Sprott School of Business validated the Australian report and applied the study's multiplier to the Canadian economy. The results were compelling; Dr. Lee predicted an increase of \$7.3 billion (CDN) to \$14.4 billion (CDN). He observed that "as GDP is approximately equivalent to all wages, incomes and salaries of everyone in the country, the increases are roughly equivalent to an increase in incomes—

indeed, the Australian wages multiplier in the study is almost identical to the GDP multiplier for both scenarios.”¹

How to Implement a National Geomatics Action Plan

In Canada, the federal government understands the value proposition of geomatics and it has historically accepted responsibility to survey and map Canada’s landmass to support a variety of public policy functions. For example, in a March 2011 press release to announce the tripling of funding for *GeoConnections* —including its extension to 2015—the Department of Natural Resources Canada stated “Geomatics is one of today’s fastest growing information technology sectors, helping Canadians deal with a variety of important challenges,” including public safety, oil, gas and mineral exploration, and agricultural production. Also consider that NRCan has invested more than \$200 million in *GeoConnections* since its inception in 1999, with a considerable amount work dedicated to develop the Canadian Geospatial Data Infrastructure (CGDI), an online resource that is intended to enable disparate geospatial databases to be connected and used as one.

The problem is not so much a lack of investment, it is lack of understanding of the tools required to make *GeoConnections* a valuable resource. For example, while *GeoConnections* built a foundation for geospatial data infrastructure, the online resource is not well utilized by Canadians or industry. CGDI technology is already outdated and does not allow users to run the applications and tools that they require to make informed land use decisions. Furthermore, while the CGDI technology is not nimble or adaptive by today’s standards, the geo-spatial information underpinning CGDI is, as stated, of vintage stock and inappropriate for today’s requirements.

In order to “spur the creation of high value-added jobs in the digital economy; help develop better emergency management and public safety; and lead to stronger returns on investment in a range of industrial sectors,”² and achieve true value for taxpayer investment *GeoConnections* doesn’t just require sustained support it requires the assistance, know-how and experience of Canada’s geomatics industry to put in place and implement an effective National Geomatics Action Plan. Industry understands what its customers require and we have experience on the international stage helping foreign governments deliver effective and well utilized national geomatics strategies.

In laying the foundation for the NGAP, we believe there are significant opportunities for innovation and savings to re-allocate and leverage a portion of *GeoConnections*’ \$30 million to form direct partnerships with industry which would be supported by private sector investment. The partnership agreements would harness private sector expertise to (1) build reliable IT infrastructure to serve as a national, open data portal for geo-spatial information, (2) enable the acquisition current, consistent and accurate aerial based geo-

¹ Strategic Analysis of Geomatics Investment Multipliers on GDP and Industry Growth, Ian Lee, PhD, Carleton University, Ottawa, August 2010, page 11.

² March 16, 2011, Natural Resources Canada “Government of Canada Renews Funding for Geospatial Initiative”—backgrounder.

spatial information and (3) establish consistent national standards for aerial acquired geo-spatial information.

Canadian companies like the North West Group have a wealth of experience in acquiring, managing and distributing enriched aerial acquired geo-information for government clients both inside and outside of Canada. Consequently, we understand the diverse range of financing and cost recovery models that are available. Canada's geomatics community would be pleased to discuss in greater detail the range of options that could be implemented while respecting the Government of Canada's austerity measures.

Acknowledgements

The North West Group and our employees would like to thank the House of Commons Finance Committee for the opportunity to table our recommendations as a part of the 2011 Pre-Budget Consultations.

We would be pleased to provide additional information concerning our recommendations at the Committee's request.