

***3DVW: Could you briefly describe your position with TECTERRA and what that agency is responsible for? What interested you in this type of work as a career?***

I am the Chief Executive Officer of TECTERRA. TECTERRA is a not-for-profit organization set out to help and support small and medium geomatics technology companies in bringing their innovative products to market. We have been in business for a little over three years and we have worked with over 150 geomatics companies across Canada.

I was interested in working at TECTERRA because it was a unique opportunity and organization. Through my leadership of this organization, I get to influence entrepreneurs and business professionals who have great innovative ideas that are intended to create commercial value. It is a privilege to be in this role helping companies succeed and in turn help stimulate our economy.

***3DVW: Why does TECTERRA exist? How is it helping young Canadian companies to pursue geomatics innovations?***

The purpose of TECTERRA is to contribute to the economic growth across Canada by investing in and supporting the development and commercialization of geomatics technology for integrated resource management and other geospatial applications. Our objective is to generate positive impact on the economic activity, the job market, the infrastructure and ultimately the prosperity of all Canadians.

We help Canadian Geomatics companies achieve commercial success faster than they could on their own. We do this by funding product development & commercialization projects, creating new jobs, helping to building expertise in companies, and by providing access to state-of-the-art technology through our geomatics lab. We are the only choice for geomatics companies that require a comprehensive range of services, efficiently delivered, without giving up control, intellectual property or equity.

We also help applied research groups bring their innovative technology to market through commercial partners and end-user government agencies.

***3DVW: Many emerging companies in the geomatics and geospatial fields around the globe often have problems connecting with investors and getting their business ideas up and running. What do you see as the main challenges for young entrepreneurs with ideas and energy wishing to pursue their dreams? Are there any common issues that they have?***

Young entrepreneurs need to develop their pitching skills – how to succinctly and effectively pitch their business and products. This is a common challenge that we see every day and it is arguably the number one reason why entrepreneurs find it difficult to receive investment funding. Also, early business plans often lack some of the key elements of a successful business. Entrepreneurs, especially the ones emerging from technical environments, need to

appreciate the value and importance of the business aspects of their plans – the technical idea alone is not enough. They need to have well-articulated marketing and sales strategies to convince their audience that their innovation will succeed in the marketplace and generate commercial value beyond its scientific merits. This, in large, is why TECTERRA created the Commercialization Support Services (CSS) and the Geomatics Commercialization Kick-Off (GECKO) programs, which offer Canadian geomatics entrepreneurs financial assistance for the development of comprehensive business plans and best practice techniques in the development, management and growth of their businesses.

**3DVW: Can you describe a few of the companies or projects that succeeded due to TECTERRA support and what they are doing today?**

Over the past three years, we have worked with over 150 companies across Canada in various capacities and under several of our programs. We have invested in 48 product development projects led by small and medium companies, as well as 25 applied research projects led by research teams in several post-secondary institutions. Our success can be measured in so many ways. I will share with you our overall success metrics:

- We have invested over \$30M into geomatics companies and applied research projects and we expect a total economic impact of over \$300M over the next five years
- Our investments have enabled \$16M of additional private investments into innovative geomatics product development and commercialization.
- We have created 225 net-new highly qualified jobs across Canada.
- We have trained 568 geomatics professionals on geomatics technology and equipment.
- We have provided over 15,000 of equipment-days to companies with our Geomatics Lab for product development and testing support
- We are supporting the development and commercialization of 25 breakthrough technologies
- We have invested in technologies that resulted in 8 patent filings and 41 more patents in the works

A few examples of companies we work with include the following:

TECTERRA is currently working with Trusted Positioning Inc., a startup in Alberta developing state-of-the-art positioning and navigation software technology that is used in consumer mobile devices as well as professional applications in agriculture and defense. We helped build the company's capacity at a critical time of development when they needed the support to build their operational infrastructure so they could execute their business plan. Since we first engaged with them, the company has grown in size and revenue, and they are now less dependent on us and more focused on financing their activities through their commercial revenues.

Another example would be Lim Geomatics, a start-up based in Ontario. Lim Geomatics has developed innovative forest inventory management software to be used by government agencies to more effectively and efficiently manage their forest resources. With our investment and

support, the company was able to complete their product development and launch their product into market. They are now enjoying full scale commercialization of their technology.

Another example is AbsoluteTrac, a small company that is developing a full-scale emergency response center in the Northwest Territories for coordinated rescue operations in support of the various service companies and government agencies operating in that region. Using this new facility and equipment, real-time tracking and response to personnel emergency situations will be possible and efficient, thanks to the coordination of the resources available from all participating organizations.

We are also supporting a research group at University of Calgary developing 3D imagery technology to be used by health professionals for the imaging of the torso of children with scoliosis. This technology will replace the used of repeated X-rays that subject these children to higher risks of cancer. The technology is being developed in conjunction with two of the leading healthcare establishments in Canada: Alberta Children's Hospital and Halifax Killam Health Centre.

These are just a few examples of the technologies and companies we support.

***3DVW: I looked at the number of companies that have worked with TECTERRA, it is impressive. Are most of these companies operating today? Have many of them expanded to pursue international markets?***

Most of the 150 companies we have worked with are operating today and many of them have international business as an integral component of their business plan. The United States is typically one of the first target markets for many of the companies we work with, but some companies have tailored their business plans to address specific niches in other markets like China, South America and Africa.

**3DVW: I understand that you also operate a Geomatics Lab, can you tell us a bit about that? Where is it and how does it operate?**

Our Geomatics Lab hosts close to \$6M in state-of-the-art geomatics technology that is intended for use by geomatics companies and applied research groups for product development, testing and other proof of concept applications. The lab is located in our offices in Calgary, but most of the equipment is signed out by companies for use at their own facilities or in the field. The objective is to give companies access to equipment that is needed for their product development activities but often considered prohibitively expensive for them to purchase or access on the market on a regular basis. We offer the equipment for use free of charge to our portfolio companies and at highly subsidized rates to non-portfolio companies. Some equipment examples are GNSS simulator, ground-penetrating radar, gravimeters and 3D printers.

If you're readers are interested in the Geomatics Lab, they can find more information on it on our website <http://www.tecterra.com/equipment.html>

***3DVW: Are there companies operating in the 3D and visualization sectors within Canada that have partnered with TECTERRA?***

We support companies involved in all geomatics disciplines and all industry applications possible. We support several companies developing 3D and visualization technologies including Cylo Technologies and MRF Geosystems who develop 3D GIS systems. We also support Intermap and LSI who both develop 3D digital terrain models, as well as Scope Augmented Reality who develops 3D visualization models for augmented reality applications.

***3DVW: Do Canadians have particular needs in terms of geomatics that other countries may not have? Are all of the provinces similar in terms of their geomatics needs and goals?***

Canadians have a particular focus on geomatics technologies that offer tools and solutions for resource management applications. With Canada's economy being driven by natural resources, geomatics is a strategic component of Canada's innovation strategy. With geomatics, more efficient and effective operational management is made possible in all sorts of resource applications including oil and gas, forestry, mining, water management, land development, agriculture and many others. Depending on the resource industries in each province, focus across provinces may differ in the applications required.

***3DVW: What is the connection, in your view, between the education system and the development of an innovative geomatics industry? Where do we need to be doing more work and how might we meet this challenge?***

In TECTERRA's perspective, innovation is the creative and efficient implementation of an original idea or method, leading to the delivery of a new product, service or process, through a sustainable business model, to provide economic, social or environmental value. From that you can see that our conviction is that innovation is not always about the technical content, but also the business model and the economic value resulting from the combination of both. Therefore, our education system needs to generate graduates who are well-versed in the technology and also with great aptitudes for business. Technical advancement alone is not the answer. We need graduates who have passion for and knowledge in crafting a successful business venture around a neat technical idea and ability to take the steps to achieve that success. Today, we see this lacking in most of the start-up ventures that emerge around technical inventions, where the proprietor has a world-class technology but lack the basic skills in building a business model that successfully brings this technology to market; which has been one primary area of activity for

TECTERRA, namely help build the skills and capacity within start-up organizations so they can successfully define and carry out their commercialization plans.

***3DVW: What does the future hold for TECTERRA, what are we likely to see in the coming days and years?***

TECTERRA has demonstrated success on all fronts through our engagements with the industry, research and government. Over our short three-years of operations, we have demonstrated that an independent, flexible organization like TECTERRA can help carry out the government's mandate of stimulating the economy through technology innovation, job creation and infrastructure development, both efficiently and effectively. To that end, our funders are pleased with our progress and we expect to have a new five-year extension where we can continue to deliver tangible value to the industry through our support to geomatics technology companies and applied research across Canada. We always review and tune our programs to ensure the fit and suitability with the need of our client base and we will introduce new programs to further our reach into the geomatics community and help them grow their commercial potential domestically and internationally.