



CALL FOR PROPOSALS
Commercialization of Geomatics Technology
for Integrated Resource Management
(Industry Partnerships)

General

Tecterra is pleased to announce its first Call for Proposals (CFP) for innovative commercialization and applied research and development projects in Geomatics for Integrated Resource Management (IRM). Funded by the Government of Alberta, through Alberta Innovates - Technology Futures (AITF), and the Government of Canada, through the Network of Centres of Excellence (NCE) – Centre of Excellence for Commercialization & Research (CECR) program, Tecterra’s role is to enable the development and commercialization of Geomatics solutions for integrated resource management in energy, forestry, agriculture, environment, land management and land development.

This CFP is an opportunity for Canadian industry, research organizations, government and other stakeholder communities to put forward their ideas and plans to create economic value for Canada, Alberta and Tecterra through the development and commercialization of geomatics technology. Tecterra will invest in such initiatives that are consistent with its mission, being:

Tecterra will contribute to the growth of economic activity in Alberta and Canada by investing in and supporting the development and use of geomatics and related Information & Communication Technologies (ICT), products and services that contribute to the growth of the economy, the infrastructure and integrated resource management industries.

Tecterra’s investment programs are focused on four Technology Themes, namely:

- **Observe** – multi-scale Earth observation;
- **Monitor** – historical and real-time monitoring;
- **Forecast** – geomatics data integration, analysis and modeling; and
- **Manage** – intelligent information, land and resource management systems.

The four Technology Themes are important to geomatics research and development companies, service companies, oil and gas companies, forestry companies, all levels of government, regulatory agencies and not-for-profit organizations providing products, services and tools to assist in effective resource management. These four Technology Themes will drive a variety of investment programs co-defined by industry, academia and government based on the importance and value to end users.

Tecterra's Investment Programs

Tecterra has designed a suite of investment programs to achieve its goals and objectives through the funding and support of commercialization projects through direct partnerships with:

- 1) Industry,
- 2) University Research Groups, and
- 3) The Alberta Resource Sector.

Tecterra's investment programs are available largely through CFPs soliciting commercialization partnerships; with each CFP focusing on one type of partnership at a time. **This first CFP is seeking industry partnerships** – future Tecterra CFPs will target commercialization opportunities through partnerships with Alberta university research groups and the resource sector.

The Industry Partnership Program

The commercialization projects sought under this program and CFP are open to **Canadian companies** in partnership with other Canadian and/or foreign industry, academia, government and other stakeholder communities. These are projects ranging from six months to two years in duration involving the commercialization of a geomatics technology, product or service catering to a specific market need or solving a targeted commercial problem. These projects could be one of two categories:

- **Idea-to-Implementation Projects:** These are projects of up to two years in duration involving the applied research and development of a technology targeting a specific application with a defined commercialization plan in a specific market.
- **Implementation Projects:** These are projects of up to one year in duration involving the development of a product or service based on an early-stage technology with a defined commercialization plan in a specific market.

Commercialization projects may include the formation and development of a new venture (start-up) company to commercialize a new technology developed within a specific Tecterra funded project, a technology from other private, early-stage companies or a technology from established IRM industries looking to spin out new technologies into new market applications. These projects may also include technical product/service demonstration to provide opportunities for newly created technologies to engage end users in a field trial or demonstration projects as component of the overall commercialization plan. Other support models may include spin-off companies from research with a business plan focused on one of Tecterra's areas of interest as well as development and/or marketing initiatives intended to protect and/or license new technologies to other entities.

To be considered for funding, Commercialization proposals must:

- be submitted and led by a **Canadian company** (Project Leader) - a for-profit business,
- involve the development and commercialization of a geomatics technology in one of Tecterra's technology focus areas,
- utilize an inter-disciplinary approach (e.g. involve multiple organizations and/or institutions, include both development & commercialization, or other similar aspects)
- provide for employment of at least one new highly qualified professional (HQP) to work in Canada on the targeted development for the duration of the project or 12 months, whichever is longer –

- candidate HQPs are required to be present and eligible to work in Canada at the time of application, and
- include a well-defined target application with a comprehensive commercialization plan.

Partnership with an **Alberta or other Canadian research institution** on the intended project, or involved technology, is highly encouraged and recommended. Priority will be given to projects based on technology developed in collaboration with a research institution or using other demonstrated forms of Canadian research teams. Priority will also be given to projects that are based on proven technology which will allow for quickly moving a high-potential concept into testing and then into the implementation and commercialization stage.

Project Selection Criteria

Project selection will be based on various criteria including:

- Generating new geomatics commercialization opportunities and creating growth of the geomatics sector in Alberta and the rest of Canada;
- The potential to establish the funded entity/entities, Alberta and Canada as a leader in the geomatics field of practice and business;
- The potential to create/establish new commercial geomatics market verticals while strengthening the commercial credentials of the funded entity. Global market potential is highly desirable;
- The potential for the newly developed product or service to benefit the supported entity through active use and utilization by industry and/or governments in Canada;
- The demonstration of collaboration (i.e. involvement of multiple partners including communities, potential users, suppliers and/or joint venture partners);
- The benefit to broader industry and market sector(s);
- Acceptable project risk profile – project success potential vs. business/operational/financial risks;
- A clear framework for intellectual property management among the involved parties (e.g. research, industry and government) to ensure mutual benefits for all stakeholders; and
- The proposed financial model with Tecterra (e.g. royalty payments, loan repayment, etc.) based on the economic and/or financial gain directly realized from the intended project and/or the overall value realized by the Project Leader. Tecterra's funding is not a grant – while not seeking corporate equity, Tecterra is requiring some form of a financial return with every investment for sustainability purposes.

Specific Topics for This Call

Although proposals in all geomatics product and service development areas are welcome, this CFP in particular is seeking proposals on the following specific topics directly related to the four Tecterra Technology Themes:

- ***Development and demonstration of systematic monitoring techniques*** with satellite/airborne and surface sensor data at a variety of spatial scales (centimetres to kilometres), temporal scales (seconds to seasons), and spectral domains (ultraviolet to microwave). Addressing the enormous informatics challenges of measuring, modeling and monitoring resource and environmental phenomena in these multiple modalities will yield solutions applicable to geological, hydrological, ecological and engineering investigations (e.g. forest inventories, crop health, environmental remediation, biodiversity tracking, and water monitoring and management).

- ***Development and demonstration of multi-sensor systems and the use of sensor data for effective information management*** for navigation and mapping applications. Examples include Global Navigation Satellite Systems (GNSS), integrated GNSS and inertial sensors, integrated imaging and LIDAR sensors, navigation systems for tracking of assets, vehicles, personnel and endangered species as well as direct geo-referencing of terrestrial and aerial mobile mapping systems (e.g. unmanned aerial vehicles) and services (e.g. location-based marketing). Projects that will allow for cost-effective monitoring and mapping of Canada's landscape in order to better control and preserve Canada's natural resources are encouraged. Projects that will allow for the use of geomatics technology to stimulate the Alberta economy through consumer-focused applications are also encouraged.
- ***Development and demonstration of advanced real-time Wireless Sensor Networks (WSN)*** - including GPS, inertial sensors, and radio frequency sensors, deployed across key resource and environmental target areas and applications. Example applications will include industrial on-line processes such as: estimating clay abundance in oil sands; monitoring landscapes to provide forest fire alerts; water management applications, hazardous material management and control, and other similar applications.
- ***Development and demonstration of advanced Geographical Information Systems (GIS)*** to facilitate visualizing, monitoring, communicating and decision-making in resource and environmental applications as well as other information management applications. Such ge-utilities will provide more advanced, diverse and quantitative capabilities than the current "Google Earth" type of tools and may be either desktop or "web cloud" based technologies.
- ***Development and demonstration of an unprecedented integrated approach to Earth sensing*** for resource management. This will include addressing scientific and engineering issues such as: calibration and validation; data management; information extraction and interpretation across geo-strategic technologies.

Tecterra Funding Guidelines

The estimated funding program budget, number of awards and average award size/duration are subject to the availability of funds as determined by Tecterra's board of directors. Tecterra expects to invest in 10-15 industry projects under this CFP commencing in 2010/2011.

Tecterra's contribution under this CFP will vary by project and will generally range from \$50K to \$300K per project. Tecterra will consider larger scope projects on a case-by-case basis.

Tecterra's contribution payments will be made quarterly subject to satisfactory quarterly project status report from the Project Leader to Tecterra's CEO for review and approval. Details and format of quarterly project status reports will be defined in the definitive funding agreement. Oral presentation to Tecterra's management may be required.

Tecterra will also require annual/final project reports in a format to be defined.

Budgetary Requirements

For a project to qualify for Tecterra funding, the following minimum budgetary requirements apply:

- A minimum cash contribution from the project partners representing 50% of the overall project cost in place and available for use within three months from the start date of the project.
- Direct qualified labour expense incurred by the Project Leader on the project may be accounted for in the above cash contribution requirements
- Cash contributions from other funding agencies and sources (e.g. GEOIDE and other NCEs, NSERC, universities internal funds, etc.) used in prior research and development stages of the base technology may be accounted for to a maximum of 25% of the overall project cost.
- In-kind contributions from industry and/or other funding agencies are encouraged but may not be used to substitute for the above cash contribution requirements.

Proposal Preparation and Submission

Expression of Intent:

Applicants are required to submit an Expression of Intent (EOI) only in the form provided by Tecterra prior to submitting a full proposal. The EOI should include, in no more than the 3 pages of the provided form, the following:

- The participating development partners, the Project Leader and the expertise of each partner,
- The problem and the intended product and/or service,
- The goals to be achieved and intended deliverables
- The methods to be applied,
- The project development plan, deliverables and timeline,
- The intellectual property development and management plan,
- The commercialization plan and related financials including funding provided by each partner,
- The job creation profile associated with the intended project,
- The requested support funds from Tecterra, and
- The proposed financial model with Tecterra.

EOI submissions will be reviewed by Tecterra's Scientific and Business Advisory Committees for technical content and business model, respectively. Successful EOI submissions will be contacted to complete and submit a full proposal for full project details for final consideration and decision.

Tecterra reserves the sole and absolute right and discretion to select all, some or none of the EOI submissions for FP consideration.

Full Proposals:

Full Proposals (FP) submissions are required to follow the FP template and instructions, which will be provided later by Tecterra. FP submissions will be reviewed by Tecterra's Scientific and Business Advisory Committees. Successful FP submissions will be contacted to complete definitive funding agreements which will be between Tecterra and the respective participating industry partners and will include all terms and conditions.

Tecterra reserves the sole and absolute right and discretion to select all, some or none of the FP submissions for funding. Tecterra has the sole and absolute discretion to determine all funding amounts.

EOI and FP Deadlines:

Expression of Intent (EOI) due:	July 15 th , 2010
Response to applicants EOI submission:	August 19 th , 2010
Full Proposal (FP) due:	September 30 th , 2010
Notification of FP acceptance:	October 28 th , 2010
Award (upon the execution a definitive agreement)	December 16 th , 2010

EOIs and FPs are required to be signed by an authorized signatory of the submitting organization and received **electronically** by Tecterra by the close of business day (5:00 pm Mountain Time) of the due date and may be submitted in either Microsoft Word (DOC) or Adobe Acrobat (PDF) format. Only FPs in the requested Proposal Template will be considered. **All submissions are to be emailed to admin@tecterra.com with reference to this CFP in the subject line.**

Award Notification

Award notification will be made to the Project Leader by Tecterra's CEO. Funding will be initiated only after the completion and execution of the definitive funding agreement between Tecterra and the Project Leader. Unsuccessful applications of high merit may be recommended for re-application under future Tecterra CFPs.

Non-Confidential Disclosure

By submitting a response, the applicant represents that the EOI and FP do not and will not be deemed to contain any confidential information of any kind whatsoever.

Notwithstanding, however, applicants selected for presentation and/or definitive funding agreement discussions will engage in such discussions exclusively with Tecterra's management under a non-disclosure and confidentiality agreement.

Expenses

All expenses incurred by the applicant through the application process, regardless of the outcome, will be the sole responsibility of the applicant.

Future Calls for Proposals

Tecterra intends to issue other calls for proposal in the future. The timing and areas of focus of future proposals may vary depending on the identified areas of market interest and available research and development activities. Please submit your suggestions and recommendations to admin@tecterra.com.

Other Information

If you have questions, please consult with the FAQ section on Tecterra's website at www.tecterra.com. For additional information, please contact Tecterra at admin@tecterra.com.

Information about future Tecterra CFPs will be available on our website www.tecterra.com.