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Not just for video games: Geomatics solves real-world business challenges

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By: Michele Sherren

Its 3D animations and spatial simulation make it pretty cool to watch, but geomatics is about more than jazzy visuals.

Clients increasingly view geomatics, with its ability to integrate, query, and relate components of a variety of data types, as a vital tool that brings a powerful new dimension to real property decision-making. **Related Articles**

Geomatics group ramps up for national service delivery. Geomatics is a growing sector, and Real Property Services' (RPS) geomatics group is growing right along with it.

Staff of the Aboriginal Northern Climate Change program at it. Indian and Northern Affairs Canada (INAC) are recognizing the power geomatics brings to the decision-making table more and more every day.

EMMA. – the Energy Management Mapping and Analysis system – is a prototype geomatics (Geographic Information System, or GIS-based) application developed for INAC by Public Works and Government Services Canada's Real Property Geomatics Services (RPGS). It's designed to help INAC make informed energy program decisions in off-grid Aboriginal and northern communities.

"Geomatics" refers to the integration of a wide range of geographic information – like land surveys, maps, and databases – into one application. Clients can sort, file, relate, and query the components they want – the way they want – for an unprecedented view of data. The result? Vastly improved decision-making.



The Energy Management Mapping and Analysis system was designed to help Indian and Northern Affairs Canada make informed energy program decisions in off-grid Aboriginal and northern communities.

INAC's goal is to introduce conservation measures or find renewable energy sources, such as wind or hydro, to replace the current diesel fuel used to generate electricity in remote communities. EMMA. fills the "information gaps" INAC had related to energy consumption on their reserves, says RPGS Project Manager Denis Villeneuve.

EMMA. integrates community location and population information with diesel usage, cost and other important man-made and geographic indicators, such as the location of industrial and transportation facilities, wind statistics, or the nearby presence of water. By integrating and querying the different data sets, INAC program staff can assess each community's potential for adapting to an alternative energy enambac the best shot at success.

resource, and which resource or conservation program has the best shot at success.

And that's powerful stuff, says Villeneuve.

"EMMA. clearly demonstrates the benefits of a GIS-based technology, most notably for

automating and performing complex data queries, generating maps and producing insightful reports," says Villeneuve. "Users can customize their data, and view it on-screen, print it off in a report, or export it in a text file for use in other applications."

Compelling communications

But its flashy graphics do lend an incredible appeal to geomatics solutions. They can turn the ordinary into something very exciting, which helps program managers meet reporting and communication objectives.

Case in point – RPGS Project Manager Françoys Bernier developed a highly interactive geomatics-based application to help Parks Canada effectively communicate the methodology and results of the Peel Basin restoration component of the Lachine Canal re-opening project.

The project, managed by RPS' Environmental Services Directorate, included the excavation of more than 540,000 tons of contaminated soil from the Peel Basin, located in Montreal. Parks Canada's challenge to Bernier and his team was to find an effective way to showcase the various stages of the project's innovative excavation and management approach, along with its findings with respect to source and levels of contamination, at the Canal's re-opening to small water-craft (it was held in May 2002).

The final application integrates 3D animations with location maps and allows users to select from among 13 levels of soil to view contaminant levels.

François Granger, Parks Canada Environmental Manager, says the application is a great tool because it's effective for a variety of different audiences. Plus, the combination of GIS data and 3D modeling enables Parks Canada to present the information in a very appealing way.

Parks Canada has taken the application on the road to present to various scientific and environmental groups and is considering using it as part of an ongoing exhibit for the general public.

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