

## What is geomatics?

by: Rémi Laprise, P.Eng.

Here is a virtual encounter which was held on the Internet between a virtual journalist named Gis (short for Gismo) who works for Internet Inc, located somewhere in cyberspace and Rémi Laprise, P.Eng. Gis read the article entitled "[Municipal Geomatics, a new inescapable paradigm](#)" published in the Contact Plus magazine no.28, winter 1999 edition. He had many questions...

**Gis:** Rémi, I found your article very interesting, but I am a little confused; can you point out why Geomatics is suddenly becoming so significant?

**Rémi:** As you may know, Geomatics is the science which makes it possible to link alphanumeric data (text and numbers) to drawing data laid out on plans. In other words, it is a tool that processes data on a plan in the same way a database processes alphanumeric data; both need a pre-defined structure.

**Gis:** An alpha what database?

**Rémi:** Alphanumeric! The majority of cities have alphanumeric databases composed of text and numbers; they are used, for example, for preparing municipal tax bills. A database may contain information such as the name, first name, address, city, postal code, phone number, marital status, lot number, annual taxes, account status, etc. This information can be related to representations on plans (location of the house in question), which then becomes the components of the graphic data base. These two types of data are processed by the Geomatics system in the same data-processing environment.

**Gis:** What plans are we talking about?

**Rémi:** Plans or maps of the city with the streets, sidewalks, houses, trees, posts, grounds, overhead and underground wiring networks, watermains and sewers, etc.

**Gis:** That seems interesting, but describe an example to me.

**Rémi:** Let us suppose that you want to find the address of a person. You can consult a database listing and use the search tool, enter the name of the person, and the result of the request is a piece of text that gives you the address. If you had a Geomatics system, for the same request, you would have, in addition, the result presented on the city map, where you would see the location of the house of this person and who are his neighbors. You can even see a photograph of the house. It would be easier for you to know where that person lives than if you only had an address. This is a simple example, but there are thousands of

applications of Geomatics which make it possible for the decision makers to make enlightened decisions because results are more obvious when they are presented on a map.

**Gis:** Where do these plans come from?

**Rémi:** Many plans already exist, prepared by various sources, such as the Design Services within municipalities, consulting engineering firms or land-surveyor firms. But for the moment, these plans are generally not compatible with each other. To be used in Geomatics, they will have to be redrawn using a standard that applies a structure.

**Gis:** And when you mentioned that Geomatics made it possible to realize savings, can you give me some examples.

**Rémi:** Let us take the case of a municipality which must forward a form letter to the people living on streets W, X, Y and Z in a certain neighborhood announcing that the City has adopted a subsidy program to promote housing restoration projects. Starting from the city map, on a Geomatics system, a polygon is drawn around the districts concerned. While asking to color in blue the dwellings built 40 years and more ago, city officials will see on the screen that there are 80 houses in the sector concerned. By estimating the percentage of those that may accept the offer, they can estimate the required budgets. By selecting the menu option <<merge letters>>, 80 personalized letters and labels are printed and sent to the citizens informing them about the city's offer. All this can be done in a few minutes. If one were to proceed by the current means, one could spend several weeks before coming to the same result!

**Gis:** In this example, I understand that it can also improve services to the citizens by targeting the mailings rather than posting public notices that are not necessarily read.

**Rémi:** Exactly. And as an aid to decision-making, more sophisticated Geomatics systems can present zones to be evacuated in a city if a truck filled with chemicals overturned. With the weather conditions, officials can evaluate the priority sectors to evacuate and proceed with automated phone calls to all the residents in the danger zone.

**Gis:** The smaller municipalities, what can they do with Geomatics?

**Rémi:** They can obtain the same benefits, but work required will take more time. It is necessary to establish a systematic program to link to plans all necessary information and do this on a regular basis. This information is difficult to find if there are no plans. For example, it would be necessary to link to

these plans all the information pertaining to the inventory and maintenance of the water piping network and related equipment, snow removal planning or follow-up on road conditions within the city streets, etc.

**Gis:** Wow! I hope that Internet will soon be able to give us access to all this information.

**Rémi:** Why speak of the future? All that is available today. All that is needed is to set it up, and the costs are very reasonable

**Gis:** Oh yes? I would like to know more.

**Rémi:** Of course, but, I must leave for a meeting. I will contact you soon to continue our conversation!

**Gis:** But you were going to speak to me about the Geomatics Year 2000 bug.

**Rémi:** I just have time to mention that drawings are not affected; the bug can affect only alphanumeric databases which do not have four digits for the year in date fields. See you soon! ♦

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