

GIM Member Puts Canada in the Driver's Seat

An industry that is complementary to Geomatics in many ways is the Intelligent Transportation Industry (ITS). Blain Martin, OLS, CLS, PMP, a former AOLS Cadastral member, was sworn in as a Geographic Information Manager (GIM) at our AGM in February and is now working in the ITS sector.

He is the Canada-wide manager for Navigation Technologies Canada Inc. (NAVTECH), a company that creates a digital map database and provides a virtual reality of the road network throughout the United States, Canada, Europe and other countries. Digital geographers from NAVTECH drive across the country collecting road geometry and combine it where possible with quality materials available from a variety of sources such as city and municipal governments, fire departments, and planning commissions. Each road segment, once driven for geometric accuracy, is then characterized with up to 150 legal, logical, and physical attributes, such as addresses, turn restrictions, road sign text, road barriers, and so on, to help the driver navigate with greater confidence. Another layer is then added

with 45 categories of points of interest such as restaurants, hotels, gas stations, ATM's, etc. The geographers regularly return to re-drive the roads to re-test and refresh map data to accurately reflect a road landscape that is constantly changing.

Many vehicle manufacturers are installing dashboard navigation systems, which display a map and give you directions when you enter the location of your destination. NAVTECH compiles the maps for most of the navigation systems in the U.S. and most of Europe. A controller is installed in the car to gather information from Global Positioning Satellites (GPS), the car's speedometer and its own gyroscope to pinpoint your location. The driver uses a remote control to enter a street address or select a pre-stored point of interest, such as a hotel or a restaurant, etc. The controller compares the data against coordinates stored in its memory to place the car at a single point on a specific road, accurate to within 15 feet or 4.5m. The software examines all of the possible routes from your destination to your car's current position and calculates the fastest route. An in-dash

display shows your position and your surroundings on a road map. A synthesized voice alerts the driver to prepare to make a turn or exit from a highway at the appropriate time.

This capability, although only generally available now in upper-end vehicles, will probably be installed in mid-range family cars in the near future, as the price of the systems decreases. Many rental vehicles (see Hertz NeverLost graphic below) also contain the system. Currently, automobile navigation systems add an average cost of around \$3000 to the price of the vehicle but could be as low as \$1000 in a few years time as demand increases.

References:

- <http://www.itscanada.ca/>
- <http://www.navtech.com/index.jsp>
- <http://www.hertz.com/servlet/ByrServlet>
- Scientific American May 2002 "Getting There" Page 42
- Edmonton Journal May 10, 2002 "Putting Edmonton on Satellite Map" by Jane Cardillo
- Navigation Technologies www.navtech.com



Geographic Information Management AOLS Membership Statistics

Currently registered: 61
Eligible for registration & awaiting Swearing-In: 23