



Microsoft MapPoint System Partner Solution Case Study

The power of location



Overview

Country: Canada, United States

Industry: Law Enforcement
Personal Security and Asset Protection
Government

Customer Profile

BSM Wireless Inc. designs, manufactures and markets a comprehensive line of automatic vehicle security and location solutions for the commercial, consumer and law enforcement markets.

Business Situation

BSM was seeking to provide a digital mapping and location solution that would increase the efficiency, accuracy and marketability of its industry-leading Stinger bait vehicle system.

Solution

Integrating MapPoint 2004 software into the BSM Stinger system provides high-quality and up-to-date street-level maps that allow law enforcement agencies to efficiently track and locate bait vehicles.

Benefits

- Large increase in client base
- Access to broader markets
- Cut custom map costs to zero
- Easy integration with Stinger
- Developer-friendly interface

The Power of Location Helps Law Enforcement Agencies Nab Car Thieves

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Dr. Paul Pilon, Vice President of Research and Development, BSM Wireless Inc.

When BSM Wireless Inc., a Microsoft Certified Partner, needed a robust mapping and positioning solution for its industry-leading Stinger bait vehicle system software, it turned to Microsoft® MapPoint® 2004 business mapping software to get the job done. MapPoint 2004 allows BSM to provide law enforcement agencies with extremely accurate digital street-level maps and, with the added functionality of reverse geocoding, provides the real-time street address of the “bait” vehicle position, resulting in quick recovery and a near 100 percent capture and conviction rate of auto theft suspects. For BSM, incorporating MapPoint 2004 into the Stinger product has resulted in a 15-fold to 20-fold increase in the number of law enforcement agencies using its system and has eliminated the expense of obtaining local area, street-level maps and incorporating them into its software.

Microsoft® MapPoint®

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Vice President of Research and Development

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Situation

Auto theft is a booming business in the United States and Canada. In November 2004, USA Today reported that a vehicle is stolen approximately every 25 seconds and, in 2003 alone, resulted in over \$338 billion paid in related insurance claims. To combat this trend, many law enforcement agencies have begun to develop anti-theft programs that include the use of “bait cars,” vehicles equipped with specialized hardware and software systems that allow officers to track and control them remotely, shut down their engines, sound horns and alarms, and even lock doors, trapping the suspects and allowing officers to catch and apprehend them red-handed.

Many of the first bait cars deployed in the United States were equipped with ATX Technologies OnGuard Tracker system, which used satellite and wireless technologies to pinpoint a vehicle's location, speed and direction, information that was then relayed via a call center to law enforcement agencies. When ATX decided to drop its bait car program to focus on providing other telematics services (emergency assistance, automatic collision notification, navigation assistance and engine diagnostics) for the high-end automotive industry, it left existing clients without support for the OnGuard product and removed from the market a system that was gaining the interest of law enforcement agencies across North America.

Enter BSM Wireless Inc. (BSM) of Mississauga, Ontario. An industry leader in the wireless and mobile communication and vehicle tracking field, BSM was contracted by the Minneapolis Police Department (MPD) in cooperation with the Minnesota Auto Theft Prevention Grant Board to develop a system that would not only fill the void left by the departure of the ATX OnGuard system, but that could also improve upon its limitations, particularly those related

to the accurate tracking and reporting of real-time vehicle location.

The net result was the development of the Stinger bait vehicle system. The Stinger is a turnkey, multi-vehicle monitoring system that captures evidentiary information through video and audio recording as well as real-time GPS tracking of vehicle location. Through specialized hardware that is covertly mounted in the bait vehicle and via the Stinger system software interface, dispatchers can control many features of the bait car and at the same time track its movement and location, information that is then communicated to patrol officers who can move in to make an arrest. Once the officers are in position, the dispatcher can perform a number of functions such as shutting down the vehicle engine, sounding horns and alarms and locking doors, all of which serve to facilitate the quick recovery of the bait vehicle and the apprehension of the suspects.

Recognizing that accurate and up-to-date street-level maps would enhance the GPS capabilities of the Stinger system and be critical to the success of the new generation of bait vehicle software, BSM wanted to provide its customers with an integrated mapping solution that would meet these demands. It needed a mapping ingredient that was simple and efficient to operate and could provide agencies with the capability for real-time monitoring of bait vehicle location.

Solution

The ultimate solution was the integration of Microsoft MapPoint 2004 into its Stinger system.

In the first incarnation of the Stinger system, BSM utilized its own proprietary mapping engine and spent considerable time and expense obtaining local area mapping products and data for incorporation into the

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Officer Scott Cooke

Operations Manager

RCMP Integrated Municipal Provincial Auto Crime Team

software. In some cases this involved scanning paper maps and often led to positional errors when tracking of bait vehicles first began. In addition, the lack of geocoded address information prevented agencies from determining the exact street address of the bait vehicle position, which at times led to delays in responding to the vehicle theft and the apprehension of the suspects.

In regions where digital mapping was available, the cost to obtain the mapping data sets was often prohibitive or was governed by strict legal and licensing requirements. This was especially the case in Canada, where in some instances licensing fees for the types of data required approached \$50,000 per year.

It soon became clear to BSM that this time-cost factor limited the marketability and affordability of its product, and the company began to look for more cost-efficient mapping solutions, considering such products as MapQuest and Delorme’s Street Atlas USA along with MapPoint 2004.

“The three main points in favor of MapPoint 2004 were quality, coverage and cost,” said Dr. Paul Pilon, Vice President of Research and Development at BSM. “The display quality — colors, orientation, symbology, text placement, points of interest — of MapPoint was far superior to anything we could see in the other products we evaluated.”

Pilon continued, “MapPoint was also the only product that provided complete street-level details of all of North America, which opened the Canadian marketplace for our product. Delorme provided coverage only of the United States. Given these issues, and a per-seat license cost of MapPoint that was about one-quarter the cost of the alternatives, our final decision was an easy one to make.”

Pilon noted too that “the real-time, mission-critical nature of the Stinger application combined with legal requirements for clients to maintain direct control of the evidentiary data produced eliminated the suitability of off-site or third-party ASP-hosted mapping solutions such as MapQuest.”

Benefits

Helping clients reduce auto theft, boost convictions and increase public safety

Thanks to the power of location contained in MapPoint 2004, BSM has emerged as the leading provider of bait car technology in North America and takes pride in the role it plays in the ongoing battle against one of North America’s most common and costly crimes. Wherever its Stinger and MapPoint 2004 solution have been implemented, auto theft is decreasing and the “bad guys” are getting taken off the street.

In Minneapolis, for example, Detective Wayne Johnson of the Minneapolis Police Department, BSM’s biggest U.S. client, noted, “In the first six months of the program, auto theft dropped 37 percent.” The Royal Canadian Mounted Police (RCMP) in British Columbia, BSM’s largest Canadian client, is also echoing a similar positive response. “In Greater Vancouver, after only nine months on the job, the BSM Stinger system has helped reduce car thefts by over 15 percent,” said Officer Scott Cooke, Operations Manager of the RCMP’s Integrated Municipal Provincial Auto Crime Team. “This is the first significant drop in 10 years.”

On the legal side, all evidentiary data produced by the Stinger system and MapPoint 2004 remains on the computers and in the hands of each individual agency. Data does not reside with a third-party call center and so remains secure and readily

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available for presentation to legal representatives and at court proceedings.

The quality of the evidentiary data output by the system is indefensible and has led to a near 100 percent conviction rate for car thieves apprehended by the Stinger system. "Everyone I want charged gets charged" said Detective Johnson. "In Minneapolis, we have never gone to trial on a single case."

Coverage, quality and accuracy allows rapid response and flexibility

With the detailed street-level coverage provided by MapPoint 2004, BSM delivers exact and reliable mapping data to its clients, giving dispatchers and patrol officers confidence that the location of the bait car shown on screen is accurate, thus reducing response time and increasing the probability of officers apprehending the suspects.

Since Stinger also takes advantage of MapPoint 2004 reverse geocoding functionality, it allows the dispatcher to obtain the exact street address for the bait car position, based simply on the latitude and longitude coordinates that are sent from the GPS transponder mounted in the bait vehicle. Again, this greatly reduces the response time and increases the probability of nabbing the would-be thieves.

In addition, Point of Interest data within MapPoint 2004 (regarding hotels, restaurants, etc.) is extremely useful for dispatchers to guide patrol officers toward the bait vehicle as it travels, as well as for patrol officers to orient themselves when street addresses are not immediately visible.

BSM has also configured Stinger so that it can take advantage of the power and accuracy of MapPoint 2004 geographic coordinate data by allowing agencies to set up multiple geographic "fences," a series of

predetermined areas. If a vehicle leaves or enters one of these zones, an alarm activation occurs, and dispatchers or patrol officers can be notified and take action accordingly.

Law enforcement agencies appreciate that the Stinger system includes a full licensed version of MapPoint 2004. Not only does it install easily and work seamlessly with the Stinger system, agencies can also use it for other business mapping or vehicle/suspect tracking activities such as crime mapping, address look-up, and covert or narcotics operations.

Much greater value for mapping dollar

The extensive and detailed street-level coverage provided in MapPoint 2004 allowed BSM to eliminate the significantly higher cost of obtaining or creating such data on its own. It allowed BSM to pass savings on to clients by streamlining all required mapping expenses into the license fee charged by BSM for the MapPoint 2004 product, thus making the Stinger solution even more attractive to law enforcement agencies.

"In addition to a lower cost for per-seat licensing for MapPoint, our clients appreciate the additional savings provided by the elimination of the need to build in variable and often extremely high custom-mapping charges into our product," said Pilon. "Also, with the level of detail and coverage provided by MapPoint 2004, our clients receive a much greater value for their mapping dollar."

Increased sales and expansion to international markets; 15-fold to 20-fold increase in clients

"Because the MapPoint 2004 includes detailed digital street-level maps for all of the United States and Canada, our market for the Stinger system has been considerably

expanded," said Pilon. "Previously, we were constrained to markets where high-quality mapping already existed, or where we could acquire or create it in a cost-effective manner and in keeping with agencies' budgets."

In particular, Pilon notes that the Canadian market, previously constrained by the high cost of obtaining mapping data, as well as various legal restrictions around its use, has been thrown wide open to BSM thanks to the detailed level of Canadian mapping provided in MapPoint 2004 software.

The availability of the European version of MapPoint 2004 also has BSM enthusiastic about possible market opportunities there. "We are looking into the European version of MapPoint 2004 and the potential for deployment of Stinger there," said Pilon. "We have been so busy here in Canada and the United States, however, that we simply have not yet had time to pursue this market. But we are looking forward to future growth opportunities in that region as they arise."

With the opening of the U.S., Canadian and European markets, the geographic regions over which BSM can market Stinger have increased substantially and have resulted in many new customers. "Since the incorporation of MapPoint into our Stinger system, our client base has risen from 10 agencies to over 200," said Pilon. This represents an exciting 15-fold to 20-fold increase in the number of customers using our technology!"

Integration with vehicle security and fleet management systems

BSM developers were impressed by the ease with which MapPoint 2004 could be incorporated into their application. "The high quality and developer-friendly interface of MapPoint 2004 allowed us to add mapping and geocoding capabilities to our Stinger application in a matter of weeks rather than

months," said Michael Shmulevich, Director of Software Development at BSM, "something that would not have been possible using similar products on the market."

This ease of integration and the affordability of MapPoint 2004 also have BSM looking at ways to incorporate MapPoint 2004 solutions with many of its other vehicle security and fleet management systems. BSM is currently testing a new version of its existing Sentinel FM Fleet Management System — a turnkey, high-security solution that provides security, location, reporting and messaging capabilities for fleet managers who need to more effectively secure and manage their vehicles — that incorporates MapPoint Web Service. The company is also exploring the possibility of integrating both MapPoint Web Service and MapPoint 2004 with its Guardian High Security and Watchdog Consumer Protection products.

For More Information

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For more information about BSM Wireless Inc. products and services, call (905) 502-1599 or visit the Web site at: <http://www.bsmwireless.com>

Microsoft MapPoint System

The Microsoft MapPoint System is an integrated set of products and services that provide end-to-end mapping and location solutions that help businesses grow revenue and reduce expenses. By enabling customers to locate and track key business assets, as well as more effectively analyze business data, the MapPoint System helps customers improve business results, optimize business processes, and enhance business decisions.

For more information about Microsoft MapPoint, go to: <http://www.microsoft.com/mappoint>
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