

IBM Joins Siemens Snaring \$108 Billion as Cities Get Smart: Tech  
2011-12-06 05:01:01.5 GMT

By Rachael King

Dec. 6 (Bloomberg) -- Memphis Police Lieutenant Paul Wright arrived at a shooting scene in the city's Frayser neighborhood on Nov. 17, just as an ambulance was speeding away with the injured victim.

An instant later, a nearby officer pulled out an HTC Corp. smartphone to file a police report. Within an hour, the information would be scoured by International Business Machines Inc. software, helping the Memphis Police Department determine whether the incident was part of a widespread pattern.

Tennessee's largest city is taking part in one of more than 2,000 so-called smart city projects aimed at helping urban areas, from San Francisco to Rio de Janeiro, use data analysis to cut crime, pollution and traffic congestion. Over a decade, cities will invest \$108 billion in related tools, according to Pike Research, creating a windfall for software makers such as IBM, device manufacturers like HTC and Siemens AG, Europe's top engineering company, Bloomberg Businessweek.com reported.

Crimes such as robberies, burglaries and forcible rapes in Memphis fell to the lowest level in a quarter-century in 2010, reflecting stepped up reliance on technology, according to researchers at the University of Memphis.

"It's not 'Minority Report' -- we can't look at someone's head and their genes and say they're going to commit a crime," said Richard Janikowski, an associate professor at the University of Memphis who has analyzed Memphis crime data. "But can we forecast what's going to happen and where it's going to happen? Yes, we can."

#### Population Growth

While Memphis's focus has been on reducing crime, other cities such as London are using smart city tools to deal with challenges posed by population growth, as cities attract more people than rural areas for the first time. Last year, about 50.5 percent of the world's population, or 3.5 billion people, lived in cities, according to a March 2010 report from the United Nations. By 2050, the urban population is forecast to rise to 69 percent.

"It will stress the physical and social infrastructure of cities over time," said Mark Cleverley, director of public safety solutions at Armonk, New York-based IBM.

Just yesterday, IBM announced plans to buy Curam Software Ltd., a Dublin-based maker of software that helps cities manage social and health-care related services. That follows IBM's October acquisition of I2, a Cambridge, England-based maker of analytics software designed to help cities combat crime.

"Memphis has been an exemplar of one of the principles of our smarter city work: public safety," Cleverley said.

#### \$57 Billion in 2014

Sales of smart city-related technology may rise to \$57 billion in 2014 from \$34 billion last year, according to researcher IDC in Framingham, Massachusetts.

The approach has its limits in combating crime. Analytics software can't replace street patrols. Also, too heavy an emphasis on statistics can induce some officials to downgrade the severity of a crime in a bid to make a city's results look better, said John Eterno, a retired captain with the New York City Police Department who's now an associate dean in the Department of Criminal Justice at Molloy College in New York.

"It's like squeezing a lemon: initially the juice comes out easily, and over time it becomes more difficult," said Eterno, author of "The Crime Numbers Game," due to be published in January. "We've seen the numbers manipulated because of this tendency."

Economic slowdown is also causing city governments to curtail spending on certain kinds of technology to cover budget shortfalls caused by lower tax receipts. That could slow the pace of adoption of smart city tools.

### Researching Sexual Assault

Memphis's data-analysis effort, called Blue Crush, came about after the success of pilot projects, including one where 5,000 sexual assault cases were examined by variables including location and time of day. Researchers learned that women in low-income neighborhoods were being attacked while using pay phones at convenience stores at night. The phones tended to be located around the corner of the building in poorly lit areas.

"There were clusters in neighborhoods of predatory assaults and these clusters were all at convenience stores," Janikowski said. "It doesn't take a genius to realize that if you move the phones inside, you solve the problem."

Without analytics, it's difficult to recognize crime patterns, said Memphis Police Deputy Chief Jim Harvey.

"That data is spread across three to four shifts and there's no communication between the officers on different shifts," he said. Previously, officers would be given a map with the locations of crime, but it wasn't easy to see the details or recognize trends.

### Siemens Targets Cities

The Memphis police force, which covers 315 square miles with more than 2,000 officers, responded to about 1 million calls last year. With such heavy volume, the department can go from call to call without necessarily seeing the bigger picture, Janikowski said.

Siemens, based in Munich, created a division called infrastructure and cities this year to help it win contracts to improve transport networks and provide electronics for buildings. Chief Executive Officer Peter Loescher aims to boost revenue from municipalities to get him closer to a goal of achieving 100 billion euros (\$134 billion) in sales. The company will have sales of \$75.9 billion euros in fiscal 2012, which ends in September, analysts surveyed by Bloomberg predict.

In Memphis, the police department has integrated databases from various agencies into a system called Kiosk to help in investigations.

### Memphis Makes Predictions

For example, if officers are looking for a suspect who has been previously in prison, they can use a mobile device to pull up a database of all the people who have visited that suspect, courtesy of

information from the Department of Corrections. An officer investigating a burglary can pull up a list of truant students that day from school records.

As part of Blue Crush, about ten commanding officers meet with the police director each week to deliver a PowerPoint presentation of the previous week's crime stats and plans for tackling hot spots and redeploying forces.

The emphasis on technology helped Memphis police determine quickly that the shooting in Frayser was an isolated event. In the future, the police department plans to bring in new types of information including so-called unstructured data, such as the information that goes into a crime report about the circumstances surrounding a shooting or a robbery.

"We're going to begin to identify connections that we've never seen before," Janikowski said. Combining that with IBM's software could give the department even better forecasting abilities. "When you combine those two, we're going to have real predictive power in the future."

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