IBM pitches 'smart' cities as planet savers

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IBM announced that the coastal Texas town of Corpus Christi has joined cities such as London, Sydney, Stockholm, and Amsterdam in using Internet Age tools to better manage water, trash, parks and more.

"Look at the way the planet is evolving in terms of demographics and environmental considerations," said Guruduth Banavar, chief technology officer of global public sector efforts at IBM.

"It is pretty easy to see that we need to do some things dramatically differently."

Urbanization and climbing population are putting stress on the environment, and problems are exacerbated by inefficient uses of energy, water and land.

Technology can glean information about pipes, streets, parks, traffic and other once "dumb" parts of cities to effectively target solutions and, in some cases, fix things before they break, according to Banavar.

"There is a lot of information available to us through technology that is not being put to use very well," he said.

New York State based IBM and rivals such as Siemens in Germany and Cisco in California are providing systems that collect, share, analyze and act on data from historically "dumb" things in communities.

Banavar used the example of Corpus Christi, which went from tracking city work crews and projects on paper and index cards to getting real-time feedback and analytics regarding roads, buildings and more electronically.

"Now, they have information to say why problems occur, where they are and what can be done to prevent them," Banavar said. "At the end of the day, it is all about managing information to improve operations."

IBM software is being used in Corpus Christi to manage wastewater treatment plants, reservoirs, approximately 1,250 miles (2,012 kilometers) of wastewater mains and a water treatment plant that can hold 170 million gallons (643,520 cubic meters).

The system is relied on to provide water to the city's more than 280,000 residents.

Tracking of water pipe repairs revealed that nearly a third of the

problems were at 1.4 percent of the sites served. Plans were put in place to fix underlying problems and cut ongoing repair costs.

Data analysis also showed that small pipes accounted for a disproportionate number of water main breaks, prompting a switch to larger pipes to avoid future troubles.

Skills of repair crew members are automatically factored into scheduling jobs.

"You can improve efficiencies maybe two-fold," Banavar said. "When problems persist, you can dig deeper to find out underlying causes and apply predictive maintenance."

Corpus Christi is going to use sensors in its trash collection program to improve recycling and handling of waste.

"We want to use information to make the planet a better place," Banavar said. "We can start solving these problems on the city level, then start connecting cities and scale out across the whole planet."

Cities can have a more selfish motivation in that better using resources means doing more with tight budgets.

"Corpus Christi is evolving into a more sustainable city," said city administrative superintendent Steve Klepper.

"We have the real-time status of city services, automated work orders and an overview of city's infrastructure to better manage our resources, as well as better maintain the city's mission-critical assets."