



The Computerworld Honors Program

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STATUS:
Laureate

Organization:
City of Bolzano, Italy

Organization URL:
<http://www.comune.bolzano.it/homepage.jsp>

Project Name:
City of Bolzano's Living Safe Project (Italy)

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

More than half the people in the world now live in cities. Municipal budgets are static or decreasing. Resources are limited. The aging population is growing globally, as is the number of people with disabilities. At the same time, demand for better access to healthcare, expanded services and a higher quality of life is on the rise in every city. As a result, many city leaders are wondering how to meet all these changing expectations with the resources they have, without increasing service costs. For the city of Bolzano, Italy, where the number of citizens over the age of 65 totals more than 22% of the population, the answer was to find smarter, more affordable and sustainable ways to use new technology to remotely support elderly people living at home, ensuring their autonomy and security while at the same time improving their quality of life. Faced with a stagnant, 10-year budget forecast, restricted resources and the need to address the healthcare and safety needs of a rapidly growing percentage of healthy citizens over the age of 65, the city of Bolzano partnered with IBM, TIS Innovation Park, the technological park of Bolzano, and Dr. Hein GmbH, to sponsor the Living Safe project. Specific project objectives included: supporting the growth of a healthy aging community; maintaining exceptional service quality; extending the type of health and human services offered, without increasing costs. Metrics used to measure the success of the project included capture and analysis of smart sensor data and dashboard alerts, along with cognitive and motor skills tests administered to participants at the beginning and end of the pilot period.

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

The jointly developed Living Safe solution integrated accessibility innovation with sensor technology and architecture built on an IBM WebSphere Application Server with MQ Telemetry Transport for reliable messaging to deliver home remote safety monitoring and interaction. Here's how it worked during the yearlong pilot with 30 elderly residents in Bolzano: Safe at home: Seniors' homes were equipped with remote sensors to monitor the environment in real time, checking for changes in temperature or potential dangers such as water leaks or high levels of carbon monoxide. Data was transmitted and displayed on a dashboard in an off-site central control room, and on an assigned operator's Android mobile device via e-mail, SMS or Twitter. When problems arose and immediate action was required, alerts were sent to family members, "volunteer angels," members of the Bolzano Social Services Department or local emergency staff, based on the individual's specific need. The approach ensured that the user received only the care needed, and healthcare and social services systems were not strained by answering calls on a "one-alert-fits-all" basis. Smarter, social medicine: Another group of elderly citizens in the Living Safe project tested a new approach to home healthcare. The interactive system allowed residents to communicate via accessible touch-screen technology with health professionals who could immediately provide healthcare recommendations or answer patient questions. Suggestions for tutored physical training and exercises to stretch mental faculties, for example, were all provided by healthcare professionals to patients, on demand. Health data on each participant was collected and analyzed, and if necessary, family members, angels or social services professionals were notified to help.

Please list the specific humanitarian benefits the project has yielded so far.

The benefits of Bolzano's Secure Living project are ultimately enormous in scope. By connecting smart sensors, monitoring, data analytics and management and accessible technology to human resources citywide, elderly citizens are empowered to remain safely at home for longer periods, reducing the number of patients in public and private assisted living facilities. Family members also have the peace of mind of knowing that they are always virtually connected to parents and other aging relatives. From an urban management perspective, the on-demand and need-based model for the solution significantly reduces strain on local resources and systems. Social services agencies, which are alerted only when truly needed, have the capability to serve more people without increasing staff. Health care professionals are free to focus on more seriously ill patients who need to be seen more frequently for in-office visits. And city leaders can affordably deliver on the promise of a higher quality of life for senior citizens and their families.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

Over the course of the yearlong pilot, 238,965 safety sensor readings and 541 alerts were aggregated and analyzed. Results of ex-ante tests administered at the start and conclusion of the project were also assessed. Combined analysis showed that more than half of Living Safe project participants exhibited improvement or remained stable. Notably, 80 percent of home personal computer users exhibited significant improvement. In addition, when all the scenario factors are considered, estimates indicate that the solution system devised by the city of Bolzano, IBM and its partners can help municipal leaders reduce health and home safety costs by as much as 31 percent. "More than 22% of the citizens of Bolzano are more than 65 years old and would like to live at home as long as possible. The project, the first of its kind in South Tyrol, developed by the city of Bolzano with IBM, allows the elderly to do so and provides the family confidence that their

loved ones are at home safe and secure," said Mauro Randi, Director of Social Planning for the City of Bolzano. "As a result of the pilot, 80% of the elderly felt more secure, 66% improved their mobility through exercises and 50% learned a new way to interact with others through technology. At the same time it can produce savings up to 31% of our public spending, enhancing the quality of life of the elderly providing greater independence and integration into society."