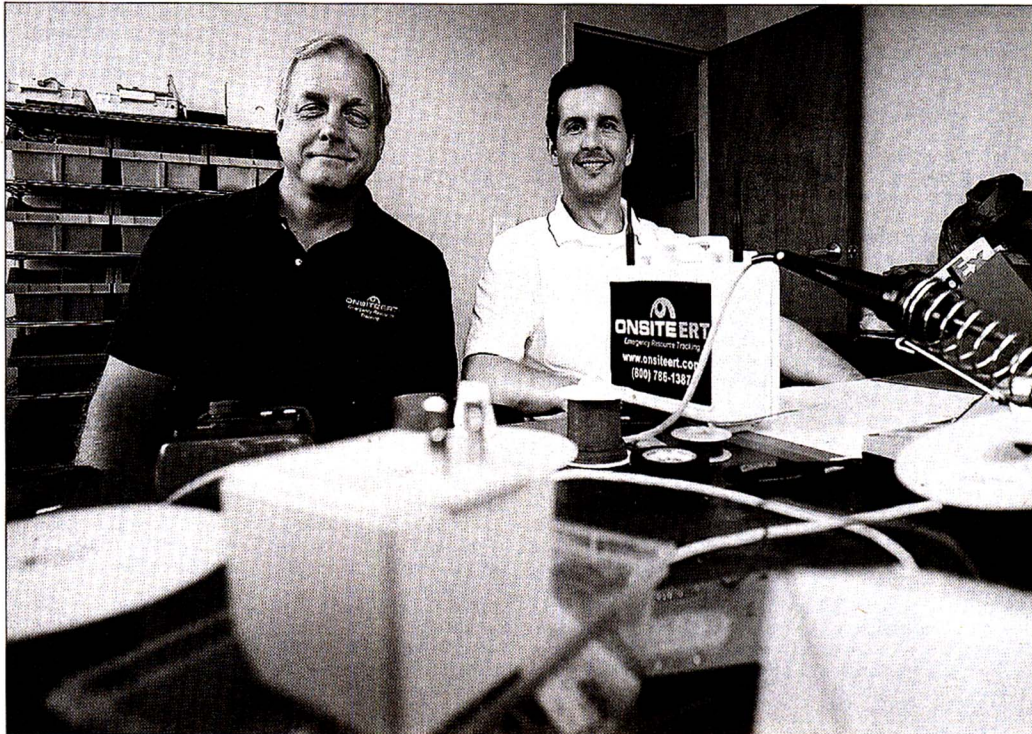


ERT Systems



ANDRE J. JACKSON/Detroit Free Press

At ERT Systems in Ann Arbor on Thursday, John Ellis, left, vice president of product design, and Dennis Carmichael, president, show a tracking device developed for firefighters in the field.

Tracking firefighters for safety, efficiency, not chaos

High-tech way to monitor teams

By GREG GARDNER
FREE PRESS BUSINESS WRITER

If you think the highest technology in firefighting is a fancy red truck and high-pressure hoses, Dennis Carmichael and John Ellis have something to show you.

Conceived from a chance encounter at a 2005 entrepreneurship conference, ERT Systems LLC and its product, OnSite ERT (emergency resource tracking) is helping fire departments around the country deploy their people more safely and efficiently.

Their 4-year-old Ann Arbor-based business is still small, but gaining traction. Next week they will deliver their 16th system to the fire department of Rumson, N.J., the town where Bruce Springsteen lives.

Carmichael is the technical guru. Ellis, who retired in 2005 as a division commander at the Fraser Fire Department, is the evangelist. He preaches to fire chiefs at national and regional trade shows, demonstrating how ERT's system can prevent many of the 100 or so firefight-

ERT Systems

Location: Ann Arbor
Founders: Dennis Carmichael and John Ellis
Employees: 7

ing deaths each year in the United States.

A system usually costs \$25,000 to \$50,000 per station, depending on the number of firefighters and the system's configuration.

ERT relies on another acronym, RFID (radio frequency identification) for something we encounter nearly every day. If you have had an ID tag implanted in your pet or paid for gas using a Speed-Pass, you've used RFID.

So imagine the adrenaline-fueled scene of a fire. Time is crucial. Occupants might be at risk. Firefighters want to do their thing immediately.

But there are administrative realities. A chief, or incident commander, needs to know who and where everyone is.

In larger cities, each firefighter swipes a credit-card-size badge across a bar code reader. In smaller towns, some of which rely on volunteer firefighters, the roster is written manually on an eras-

able board with a magic marker.

Either way, the commander's ability to monitor the team within the burning structure is limited. Handheld radios are the primary communication tool.

In large fires, with multiple departments responding, this whole process can grow chaotic quickly, much like the fire.

Combining Carmichael's software skills with Ellis' understanding of firefighting logistics, OnSite ERT simplifies the tracking of personnel. It enables an incident commander to see where each person is and how long the person has been there.

Each firefighter has a black plastic ID card inserted in his or her gear. First-responders place four yellow-cased RFID readers, each the size of a child's lunch box, at the north, south, east and west sides of the burning structure.

Each reader automatically records the name and a photo ID of everyone wearing the special card within a 500-foot radius.

The system is linked to a laptop computer that displays names of each firefighter and a four-quadrant map of the

burning building.

"Every fire department knows the problem of accountability," Ellis said. "Our challenge is to let them know we exist."

Carmichael also started Cimus Software Development, which shares ERT's space in the Bank of Ann Arbor building. He credits the economic development group Ann Arbor SPARK with helping to secure \$126,000 from the Michigan Pre-Seed Capital Fund, which matched an equal amount Carmichael and Ellis raised on their own.

In their spare time, they are pitching their business plan before venture capital funds, most of which are reluctant to commit in the current economy.

"It's a tough space to find angel investors, partly because most of your customers are local governments," said Phil Tepley of the Michigan Small Business & Technology Development Center, who has helped ERT sharpen its presentation to investors. "But the best business plans will get funded eventually, and I would put Dennis and John in that category."

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