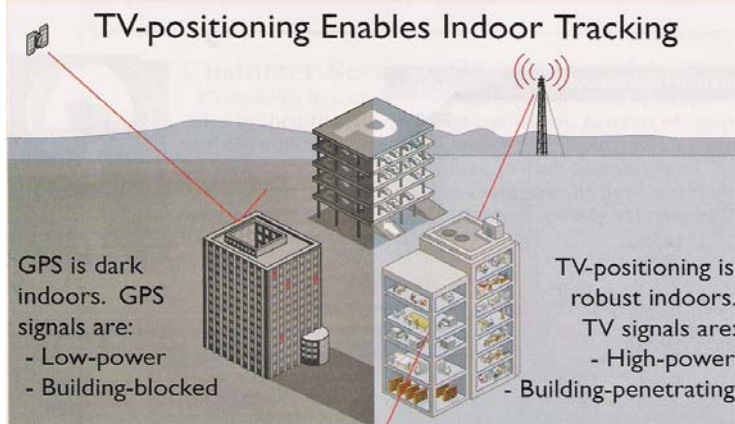


FLEET FINANCIALS



Rosum Corp. offers expanded visibility, reaching areas inaccessible to GPS signals through TV-GPS-enabled vehicle location and tracking. The system uses TV signals from TV towers, just like GPS uses signals from GPS satellites.

ENHANCING GPS Using TV Signals

By Chad Simon

In a partnership with Trimble Navigation, Rosum Corp. has developed a TV-GPS-enabled vehicle location and tracking device for mobile resource management and people, to be tested by fleet managers. Rosum is based in Redwood City, Calif., and was founded in 2000.

An enhancement to GPS, Rosum's television signals expand visibility, cutting through tall buildings, underground parking garages, dense foliage, tunnels, etc., reaching areas unavailable to GPS alone.

"Rosum TV Positioning is Web-based and uses TV signals from TV towers just like GPS uses signals from GPS satellites," said Todd Young, director of product and business development. "Our device locks on to the various TV signals that are broadcast in its area, determines how far it is from each tower, and com-

putes the vehicle's location."

Rosum provides the chip that combines TV-GPS capability. TV signal power for location and tracking purposes is 2,000 times greater than GPS, and transmitters are 11,000 miles closer, according to Young. In addition, TV signals are transmitted at a lower frequency, successfully penetrating urban obstacles, such as tall buildings. Several channels are broadcast from a single tower, enabling management to choose the best signal.

"TV signals enter windows and walls horizontally, and they're very strong signals," said George Flammer, VP of engineering for Rosum Corp. "Satellites are a much weaker signal and come down directly from above, sometimes through three or four concrete- and steel-reinforced floors, and GPS just doesn't do that."

The mobile resource management tool enables indoor tracking, and location technology can be embedded not only in vehicles, but also into a laptop or other device carried by the driver.

The TV positioning system is also helpful in tracking stolen vehicles, which are often taken to indoor places or transported in trucks unavailable to GPS.

Concerned about government vehicles used for Homeland Security, last December President Bush issued a Presidential Decision Directive detailing the vulnerabilities of GPS and called for other options should GPS data be compromised, according to Young.

"The vulnerabilities of GPS have been known for some time, including spoofing or jamming. TV positioning provides a cost-effective back-up system for GPS," said Young. ■