

# DSRC-Enabled Vehicle Platooning

## SwRI's Demo for the ITSA 2009 Annual Meeting



Three vehicles equipped with GPS, a DSRC radio, a computer and a monitor were used to demonstrate SwRI's advanced vehicle safety platooning application at the ITSA annual meeting in Washington, D.C.

This demonstration relied solely on GPS and DSRC communications, however sensor systems typically utilized in active vehicle safety systems could augment this system to decrease following distances between vehicles in the platoon. SwRI developed this scalable system and has demonstrated it using several vehicles with varying degrees of computer control, including the SSTI autonomous vehicle that was demonstrated at the ITS World Congress in New York City in November 2008.

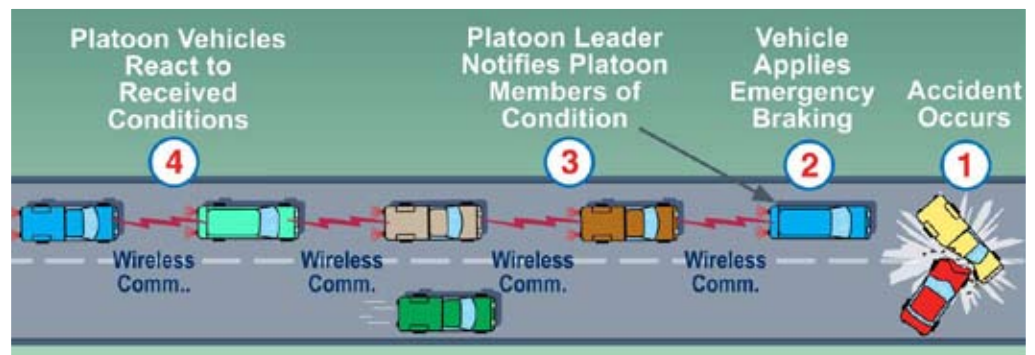
SwRI used three vehicles each equipped with GPS, a DSRC radio, a computer and a monitor for the demonstration.

The three vehicles traveled at varying speeds and positions, entering and exiting the platoon during the demonstration. The vehicles communicated and provided the drivers with information to facilitate smooth traffic flow and efficient platoon operations.

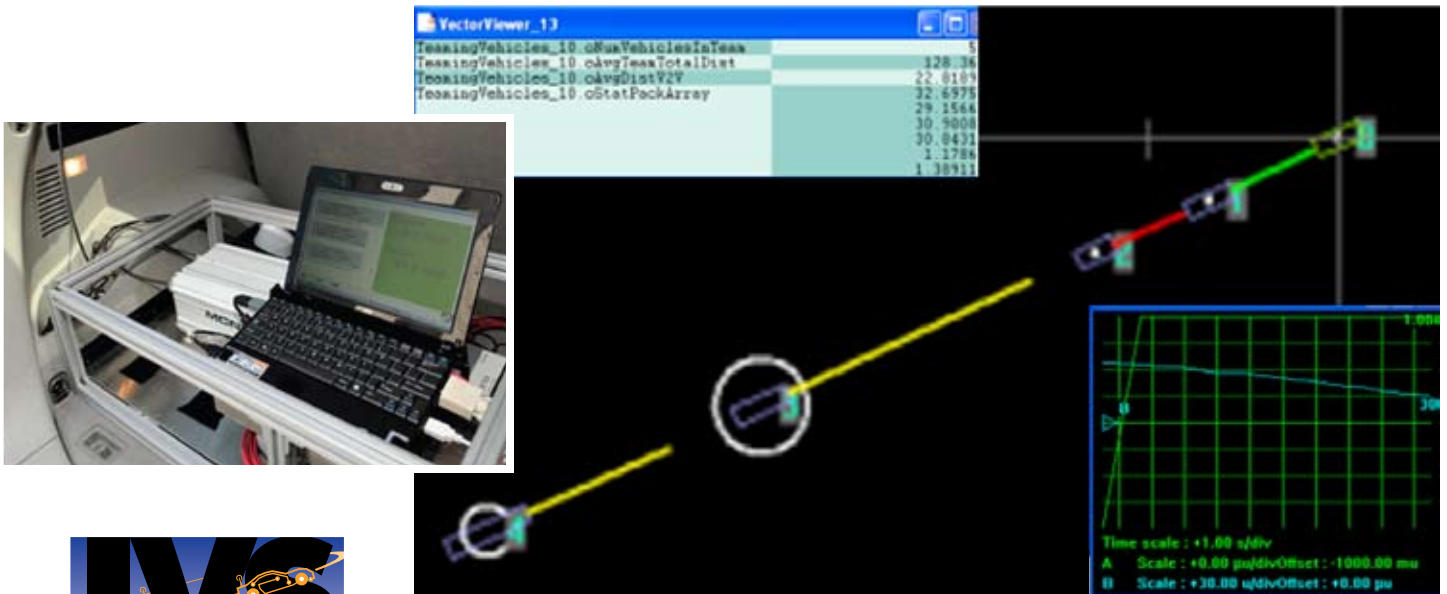
Southwest Research Institute® demonstrated a multiple-vehicle, advanced cooperative platooning application, utilizing 5.9GHz Dedicated Short Range Communications (DSRC) at the ITSA Annual Meeting in Washington, D.C.

Vehicle platooning organizes and interconnects traffic into platoons of closely spaced vehicles that share information to provide more efficient and safe transit. Platooning has benefits beyond providing enhanced safety in private vehicles, including mass transit applications, military convoys, and even future personal mobility vehicles, and can provide benefits such as maximizing fuel economy and minimizing platoon transit time.

Platooning has been demonstrated in the past at intelligent transportation system forums with expensive custom equipment installed/embedded on the vehicles. The SwRI® demonstration used carry-in, low cost Global Positioning Systems (GPS) coupled with low latency DSRC communications to facilitate vehicle platoon operations.



Platooning organizes and interconnects traffic into platoons of closely spaced vehicles that share information to provide more efficient and safe transit. This diagram illustrates how the platooning concept can enhance safety in an accident scenario.



The SwRI demonstration hardware (top, left) is located at the rear of the vehicles. SwRI's engineering software (above) depicts the vehicle's platoon intelligence.



Southwest Research Institute, an independent, nonprofit applied engineering and physical sciences research and development organization with 11 technical divisions, uses multidisciplinary approaches to problem solving. The Institute occupies more than 1,200 acres in San Antonio, Texas, and provides more than 2 million square feet of laboratories, test facilities, workshops and offices for more than 3,300 employees who perform contract work for industry and government clients.

We welcome your inquiries.  
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