Backgrounder

At-A-Glance

Company:	Savari Networks
Location:	Santa Clara, CA
URL:	www.savarinetworks.com
Founded:	2008
Mission:	Founded by industry veterans with a track record of delivering successful networking products for leading multinational companies and startups, Savari is mobilizing Intelligent Transportation Systems (ITS) with cost-effective smart wireless devices that improve roadside infrastructure while connecting vehicles and drivers to the network.
Funding:	Private
Management:	CEO, Ravi Puvvala

Overview

Over the last few decades, the need for better transportation systems has grown significantly. The number of vehicles on the road has approached critical mass, forcing government transportation departments across the country to develop Intelligent Transportation Systems, which refers to broad range of diverse technologies, including information processing, sensors, communications, control, and electronics. Combining these technologies in innovative ways and integrating them into our multimodal transportation system will save lives, time and resources by simplifying information exchange between roadside infrastructure and vehicles.

Founded by industry veterans with 50 years of combined experience and a track record of delivering successful networking products for leading multinational companies and startups, Savari aims to mobilize Intelligent Transportation Systems with solutions that help improve mobility, safety and e-payment applications like open road tolling.

Background

According to ITS International, safety statistics in the United States paint a stark and compelling picture. There are an estimated 6 million crashes per year resulting in 42,000 fatalities. Direct economic costs of those crashes add up to over $230 billion per year. Traffic crashes cause 25% of all congestion on the roadways, resulting in as much as $20 billion per year in traffic-related costs, as well as higher fuel consumption and carbon emissions from idling cars. Consumers continue to grapple with high fuel prices, as well.

In an attempt to alleviate these problems, automobile makers are looking to include smart technologies that make vehicles more aware of their surroundings. These technologies, will gain traction with consumers in the next five to ten years and begin to be a part of ITS. A critical element of the evolving transportation infrastructure, Vehicle Infrastructure Integration (VII) stands to transform the way we travel by combining leading-edge technologies such as advanced wireless communications, on-board computer processing, advanced vehicle sensor technologies, navigation systems and more to enable drivers to identify and avoid threats on the roadways. Using these technologies, drivers are provided with better information to drive safely, and vehicles can be authorized at any junction to use high occupancy lanes and toll bridges to relieve traffic congestion.

Mobilizing Intelligent Transportation Systems

Based on VII, Savari's solutions integrate with ITS to help improve mobility and safety on the roadways and have been developed around next-generation wireless technologies, including WiFi, WiMax, 3G, Zigbee, RFID, GPS and Bluetooth.

- **E-payment:** Simplifies in-vehicle transactions by integrating E-payment applications with Intelligent Transportation Systems to provide open road tolling, parking, gas, drive-through payments. Our products have been successfully field tested with leading tolling backend systems**.**

- **Mobility:** Savari integrates a range of new ITS applications into a single system. Our solution employs multiple communication technologies like DSRC, WiFi, 3G, Bluetooth to provide sufficient communication timeliness, reliability, privacy and security to ensure reliable operations. We deliver dynamic information to mobile devices (both in-vehicle or nomadic handheld devices such as cell phones/personal digital assistant devices). We generate alerts regarding static roadway features such as school zones, high hazard locations, parking locations and traffic restrictions (e.g. one-way, no left turn).
- **Safety:** Savari's solutions reduce traffic-related fatalities and injuries, as well as congestion on highways with a range of advanced features, such as cooperative intersections and collision avoidance systems, signal violation warnings, vehicle-to-vehicle communications capabilities, and in-vehicle signing for both static advisories (e.g., sharp curves, school zones) and dynamic advisories (e.g. temporary work zones, weather impacts, presence of emergency vehicles, congestion ahead etc).

The Technology Behind the Solution

Savari employs leading-edge technologies to provide travelers seamless access to real-time roadway information while in transit: **IEEE 802.11p** is a draft amendment to the IEEE 802.11 standard to add wireless access in the vehicular environment (WAVE). It defines enhancements to 802.11 required to support Intelligent Transportation Systems (ITS) applications. This includes data exchange between high-speed vehicles and between the vehicles and the roadside infrastructure in the licensed ITS band of 5.9 GHz (5.85-5.925 GHz).

DSRC is one-way or two-way short- to medium-range wireless communication channels specifically designed for automotive use and a corresponding set of protocols and message sets. It defines communication between the vehicle and roadside equipment and between vehicles. DSRC protocols ride over 802.11p enhancements.

Product Descriptions

- **StreetWAVE – Roadside Unit:** StreetWAVE is a fixed wireless gateway that can be mounted on a road side traffic pole. Designed as a flexible platform for deploying Intelligent Transportation Systems (ITS) applications, StreetWAVE improves mobility and safety on the roadways. It features a 500Mhz processor, 256MB of memory, 4GB of compact flash disk space, multiple radios (WiFi, DSRC) and an integrated GPS receiver and antenna. It has a sturdy NEMA 67 enclosure to provide weather protection.
- **MobiWAVE – On-board Unit:** MobiWAVE is a wireless vehicular on-board unit, designed as a flexible open platform based on Linux for deploying Intelligent Transportation Systems (ITS) applications to improve mobility and safety on the roadways. It features a 500Mhz processor, 256MB of memory, 512MB of compact flash disk space, dual radios (DSRC, WiFi), a GPS receiver, 3G and a Bluetooth radio. MobiWAVE powers via the automotive cigarette lighter or a standard 110V connection.

Management Team

Savari is founded by industry veterans from Nokia, Siemens, Motorola, Telsima, Atheros, and Wipro with the mission of providing wireless infrastructure to the Intelligent Transportation Systems market. The company is the chosen supplier for the US DOT's SafeTrip-21 and E-VII programs, and maintains close partnerships with automotive OEMs, traffic controller companies, system integrators and semiconductor chipset vendors.

About Ravi Puvvala - CEO, Savari Networks

Ravi Puvvala is a persistent entrepreneur who is captivated by the power of WiFi and its proliferation into various markets. As CEO at Savari, Mr. Puvvala is responsible for sales and marketing, and providing overall strategic direction for the organization. Previously, he served as the founder and CEO of Zazu Networks, a design center focused on helping customers build products based on WiFi. Mr. Puvvala has worked with several multinational corporations, gaining rich experience in engineering and management as well as a global understanding of networking products. He received a B.S. in Computer Science at Bangalore University and an M.S. in Computer Science at Arizona State University.

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