

INVITATION TO ATTEND THE INTELLIGENT VEHICLE TECHNOLOGY TRANSFER (IVTT) JOINT MILITARY/CIVILIAN WORKSHOP ON INTELLIDRIVESM (VEHICLE INFRASTRUCTURE INTEGRATION)

The Intelligent Vehicle Technology Transfer (IVTT) Joint Military/Civilian Workshop on IntelliDriveSM (formerly known as Vehicle Infrastructure Integration or VII) is **sponsored** by the Defense Advanced Research Projects Agency (DARPA). The IVTT Program is also **supported** by the Department of Transportation Intelligent Transportation Systems Joint Program Office (DOT ITS JPO), the Army Tank Automotive Research, Development and Engineering Center (TARDEC), the Association for Unmanned Vehicle Systems International (AUVSI); the Intelligent Transportation Society of America (ITS America), and the Intelligent Systems Division of the National Institute of Standards and Technology (ISD NIST).

Workshop Date: Thursday, 30 July 2009

Time: Please see the agenda below

Location: The Holiday Inn, Gaithersburg, Maryland (please see directions below)

Workshop Fee: The workshop fee of \$200 includes Proceedings, Breakfast, Lunch, and two Refreshment Breaks

Speaker Topics: Please see the **Agenda** below

Accommodations: Are the responsibility of the participant (see information below)

Enclosed: Announcement with information on Workshop Purpose, Background, Agenda, Directions and Accommodations

Please RSVP with your Registration by 28 July 09. Please register directly at our website: www.Intelligent-Vehicle.com. Please register early to ensure admittance; participation is limited.

If you have any questions, please contact:

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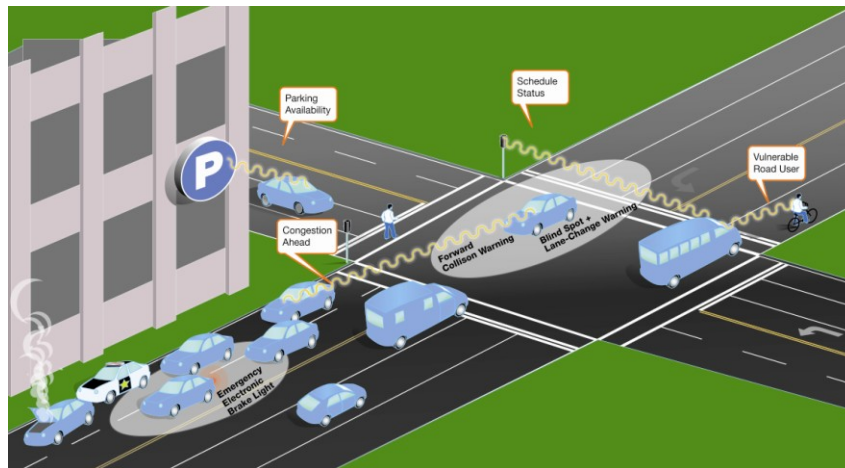
Please forward this Announcement to colleagues who might be interested in attending.

We look forward to your participation in this unique and important Workshop.

ANNOUNCEMENT OF THE INTELLIGENT VEHICLE TECHNOLOGY TRANSFER (IVTT) JOINT MILITARY/CIVILIAN WORKSHOP ON INTELLIDRIVESM (VEHICLE INFRASTRUCTURE INTEGRATION)

Thursday, 30 July 2009

At The
Holiday Inn, Gaithersburg, Maryland
Two Montgomery Village Avenue
Gaithersburg, Maryland 20879



The **Defense Advanced Research Projects Agency (DARPA)** is sponsoring the **Intelligent Vehicle Technology Transfer (IVTT) Joint Military/Civilian Workshop on IntelliDriveSM** (formerly known as Vehicle Infrastructure Integration (VII), IntelliDriveSM is a Service Mark of the U.S. Department of Transportation). The Workshop is an event of the IVTT Program, which is sponsored by DARPA and also supported by the **Department of Transportation** Intelligent Transportation Systems Joint Program Office (DOT ITS JPO); the **Army Tank Automotive Research, Development and Engineering Center (TARDEC)**; the **Association for Unmanned Vehicle Systems International (AUVSI)**; the **Intelligent Transportation Society of America (ITS America)**; and the Intelligent Systems Division of the **National Institute of Standards and Technology (ISD NIST)** of the **Department of Commerce (DOC)**.

The Workshop is **unclassified** and open to all interested participants from **government, industry, academia, and media**, whether associated with the **defense or automotive industries**. All attendees **must register in advance** of the Workshop (seating is limited and there is no provision for on-site registration).

Robotic Technology Inc. (www.RoboticTechnologyInc.com) was tasked to support **DARPA** with this Workshop and facilitate the Intelligent Vehicle Technology Transfer Program (www.Intelligent-Vehicle.com).

PURPOSE OF THE WORKSHOP

The Department of Defense (DOD) and the Department of Transportation (DOT) are both supporting the development of **complex system of systems** consisting of: intelligent vehicles; unattended sensors embedded in the environment or infrastructure; processors and software for processing data into information and achieving situational awareness; communications between and among vehicles and infrastructure; and control centers to monitor the rest of the system and provide command and control as needed. The **DOD** wants to **reduce human casualties** on the battlefield and **increase the global combat efficiency and effectiveness** of the U.S. military against conventional and asymmetric forces. The **DOT** wants to **reduce human casualties** on the nation's streets and highways and increase the **efficiency and effectiveness of the U.S. transportation system**.

Usually it is the military's rapid progress in intelligent vehicle technology that can directly benefit the commercial development of intelligent cars, trucks, and buses, reducing R&D time and expense for the automotive industry. However, in the case of **IntelliDriveSM** the initial technology transfer may instead flow from the DOT to the DOD. IntelliDriveSM technology, as with the intelligent vehicles technology transferred from the commercial sector to DOD and its industry contractors, will reduce the cost and increase the availability of commercial-off-the-shelf (COTS) technology, systems, and components for the military services. Society as a whole will benefit from the **mutual technology transfer** of intelligent vehicle technology between the military and commercial sectors.

The IVTT program is developing a **formal process** for sharing – and leveraging – intelligent vehicle technology among various government agencies and their industry and academic stakeholders that will facilitate the advent of intelligent vehicles and infrastructure, **quickly emerging and transformational technologies**, which offer enormous potential benefits for the military and civil sectors alike in the 21st century, including rapid growth of the national economy. This Workshop follows the previous successful IVTT Conferences and Workshops which were held during 2005, 2006, 2007, and 2008. The **IVTT Website** (www.Intelligent-Vehicle.com) serves as a central mechanism for effecting intelligent vehicle technology transfer, as well as a repository of IVTT information.

The **objective** of this Workshop is to highlight a near-term opportunity for DOD to obtain commercially available technology and systems which will benefit **military operations** on the **battlefield** and in **asymmetric warfare**.

A BRIEF DESCRIPTION OF INTELLIDRIVESM

IntelliDriveSM is a **system of systems consisting of vehicles, infrastructure, and control center** (which is usually considered part of the infrastructure). Subsystems include: **sensors** (in the vehicles and infrastructure); **processors and software** (in vehicles, infrastructure, and control center); and **communications** (in vehicles,

infrastructure, and control centers). Communication occurs between vehicles (V2V), between vehicles and infrastructure (V2I), and different parts of the infrastructure (I2I), and will incorporate consumer devices such as cell phones and PDAs. While the vehicles in the near-term will be manually driven, driverless (or driver-optional) intelligent vehicles, expected to be commercially available by 2019, will work even better within IntelliDriveSM, which is expected to become operational in 2014. Like the Internet, which provides information connectivity, IntelliDriveSM provides a starting point for transportation connectivity that ultimately will enable countless applications and spawn a profusion of new industries and a host of new technologies.

The IntelliDriveSM vision:

- **Safety:** IntelliDriveSM provides vehicles with **360-degree awareness**, informing drivers of hazards and situations otherwise not visible, leading ultimately to crashless vehicles.
- **Mobility:** In an information age, IntelliDriveSM can give complete **multi-modal information** about transportation network's real-time performance to travelers and transportation managers.
- **Environment:** IntelliDriveSM can help reduce the environmental impact of a trip by providing **real-time information** about traffic congestion and other travel conditions to help travelers (or intelligent control systems) make more informed decisions. Informed travelers (or intelligent control systems) can decide to avoid congestion by taking alternate routes or public transit, or by rescheduling their trip, all of which can make their trip more fuel-efficient and eco-friendly. IntelliDriveSM applications also can help drivers maintain their vehicles for maximum energy efficiency.

POTENTIAL MILITARY APPLICATIONS OF INTELLIDRIVESM

Network centric warfare is now prevalent, whether on the battlefield, or diffused throughout an adversarial realm in an **asymmetric war**, or **for homeland security**. The U.S. military is increasingly dependent on **systems of systems** consisting of vehicles becoming linked to infrastructure and remote command centers. Networks of **unattended sensors, mobile platforms, and command centers**, processing data into information, achieving **situational awareness**, and communicating with each other about threats and opportunities, are a military manifestation of IntelliDriveSM. Potentially, the military can acquire a multitude of subsystems and components from IntelliDriveSM, commercially off-the-shelf at lower cost. And the IntelliDriveSM networking system itself might well serve as an **architectural framework** for national security.

It is important that DOT and industry **IntelliDriveSM stakeholders communicate with prospective DOD users** about the capabilities of IntelliDriveSM technology and systems, and that DOD and the defense industry carefully examine its **potential benefits for national security**.

AGENDA: Thursday, 30 July 09

- 0800-0845** Continental Breakfast and Networking
- 0845-0900** Sponsor's Welcome to the Military/Civilian Workshop on IntelliDriveSM
Presenter: Melanie Dumas, Program Manager, Information Processing Technology Office (IPTO), Defense Advanced Research Projects Agency (DARPA)
- 0900-0915** Introduction to the Military/Civilian Workshop on IntelliDriveSM
Presenter: Robert Finkelstein, President, Robotic Technology Inc.
- 0915-1000** Overview of Military Networks of Sensors, Vehicles, and Control Centers
Presenter: Francis Govers III, Chief Engineer and Head of Production, Elbit Systems of America
- 1000-1015** Break and Refreshments
- 1015-1130** Overview of the IntelliDriveSM Program, Systems, Technology, Research & Development
Presenter: Tim Schmidt, Chief Technology Officer, U.S. Department of Transportation
- 1130-1200** IntelliDriveSM Coalition: Federal and State Government, Industry and Academia
Presenter: Greg Krueger, ITS Program Manager, Michigan Department of Transportation
- 1200-1245** Lunch and Networking
- 1245-1315** IntelliDriveSM and Vehicle Technology
Presenter: Luca Delgrossi, Group Manager, R&D, Mercedes-Benz North America
- 1315-1400** IntelliDriveSM Sensor Technology and Technology Scan
Presenter: Rod MacKenzie, VP and Chief Technology Officer, ITS America
- 1400-1430** IntelliDriveSM and Communications and Networking Technology
Presenter: Dmitri Khijniak, Director of Systems Engineering, Kapsch TrafficCom Inc.
- 1430-1445** Break and Refreshments
- 1445-1515** IntelliDriveSM and Computing Technology
Presenter: Ralph Robinson, Head Research Scientist, University of Michigan Transportation Research Institute (UMTRI)
- 1515-1545** IntelliDriveSM Safety Technology and Applications
Presenter: Michael Shulman, Technical Leader, Ford Motor Company Research & Innovation Center
- 1545-1615** Overview of Potential Military Applications of IntelliDriveSM
Presenter: Robert Finkelstein, President, Robotic Technology Inc.

INFORMATION AND DIRECTIONS TO WORKSHOP HOTEL

Holiday Inn Gaithersburg

Two Montgomery Village Avenue • Gaithersburg, Maryland 20879

Phone: (301) 948-8900 • Fax: (301) 258-1940

Toll Free: 1-800-HOLIDAY



Note: There is complimentary shuttle service to NIST, Metro, and anywhere within a 5 mile radius of the hotel.

Note: A special discount room rate is offered for this Workshop: \$119/night if the room is reserved by 20 July 09; Reservation Code: ROB

Directions:

The hotel is conveniently located at the intersection of Rt. 355 (Rockville Pike) and Montgomery Village Avenue (Rt. 124), just off I-270 in the heart of the I-270 Tech Corridor.

From the South:

Take I-95 North to I-495 West to I-270 North to Exit 11-Rt 124 East, Montgomery Village Ave. Hotel is ¼ mile on the left.

From the North & East:

Take I-95 South through Baltimore to I-495 West towards Silver Spring to I-270 North. Take Exit 11-Rt 124 East Montgomery Village Ave. Hotel is ¼ mile on the left.

From the West:

Take I-81 North or South or I-68 East to I-70 East to I-270 South-Washington. Take Exit 11_Rt 124 East Montgomery Village Ave. At the bottom of exit ramp, turn left at light and proceed ¼ mile to hotel on left.

Directions from the Airports:

Thurgood Marshall BWI:

Exiting BWI Airport, take 195 West to 95 South to I-495 West towards Silver Spring. Take I-495 to 270 North. Get off at Exit 11, East Rt. 124, Montgomery Village Ave. Hotel is ¼ mile from the exit on the left side.

Reagan National:

Exit the airport towards Washington D.C. Take George Washington Memorial Parkway to I-495 North towards Maryland. Follow to I-270 North towards Frederick. Take I-270 North and exit 11, East Rt. 124, Montgomery Village Ave. Hotel is ¼ mile on the left.

Dulles:

Take the Dulles Access Rd to I-495 North. Take I-495 North to I-270 North towards Frederick. Take exit 11, East Rt. 124, Montgomery Village Ave. The hotel is ¼ mile from the exit on the left.

Directions from the Hotel to Shady Grove Metro (5 miles)

Take I-270 South towards Washington DC. Take exit #9B-A to I-370 East toward Metro Station. Take the Shady Grove Road exit towards Rockville. Turn left on Shady Grove Road, right on Frederick Road, left on Redland Road, left on Somerville Drive. The Metro is on the right.