Welcome

Orientation Session

Washington, DC
February, 2015
Welcome

- Presenter –
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- Topics –
  - Overview
  - Communications and Data Movement
  - Complete System Architecture
  - Concept of Operation, Reference Implementation
  - Design Elements
Path to Deployment

- Defined V2V Apps
- Defined Safety (V2I), Mobility (V2V & V2I), AERIS and Weather Apps
- Application Development
- Pilots/Early Deployments

2011
2012
2013
2014
2015
2016

FHWA Deployment Guidelines
NHTSA Decision to Move Forward with V2V Communication for Light Vehicles
NHTSA Decision for Heavy Vehicles
Safety Pilot in 2013
Concept Overview

- **Communication security**
  - Common process for all information flows
  - Preserving “Privacy by Design”

- **Data flow and evolution**
  - Common processes, two types of data
  - Full round trip

- **Multiple communication media**
  - DSRC on all 7 channels
  - Other IP transport media

- **Tools**
  - Consistent implementations

“The opportunity for a common experience.”
A Variety of Communication Media, Data Needs

Resources: wired and wireless, the Internet

- 3,000 miles, 3,000 meters, 300 meters, 3 meters.

Requirements: Two types of data distribution:
- To all, To one.
Unified Implementation of the CVRIA  All Data Flows

Connected Vehicle Reference Implementation Architecture

- Architecture site
  http://standards.its.dot.gov/DevelopmentActivities/CVReference

- SET-IT tool site
  - Version 1.0
  - Sample project
Upcoming Stakeholder Events

- **Plug-Fests:** [http://www.its.dot.gov/testbed/plugfests.htm#calendar](http://www.its.dot.gov/testbed/plugfests.htm#calendar)
  - Virtual: Ongoing, weekly at 11:00 EST
  - Data Movement Demonstrations: March, Austin, TX; April, Detroit, MI

- **Regional CV Pilot Workshops (TBD)**

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Website: [http://www.its.dot.gov](http://www.its.dot.gov)
The OST-R has entered into 62 Memorandums of Agreement (MOA) with public, private, and academic organizations involved in the Affiliation of Test Beds. They include:

- Arada Systems
- Southwest Research Institute
- Detroit DPW
- Security Innovation
- Cohda Wireless
- Siemens Industry Inc.
- Dering & Estrada
- University of Michigan/UMTRI
- University of Arizona
- TIEMAC CORPORATION
- Tampa Hillsborough Expressway Authority
- DENSO Corporation
- Marben Products
- NextEnergy
- CETECOM
- Pioneer Advanced Solutions
- La Trobe University (Melbourne)
- OminiAir
- ITRI
- Autotalks LTD
- Connected Vehicle Trade Assc.
- Battelle Memorial Institute
- Rohde & Schwarz USA, Inc.
- MET Laboratories
- 7Layers Inc.
- Green Driver Inc.
- On Time Systems
- Virginia Tech Transportation Institute
- Illinois Tollway
- The Road Commission for Oakland County
- Contra Costa Transportation Authority
- Traffic Technology Solutions
- Savari Inc.
- Global Mobile Alert
- Case Western Reserve University
- University of Wisconsin Madison
- Unex Technology Corporation
- Sirius XM Radio Inc.
- Go-Light
- Pravala Networks
- The Regents of the University of California, Berkeley
- Renesas Electronics America, Inc.
- Vehicle Data Science Corporation
- UL, LLC
- Ericsson
- Commsignia LTD
- Aldis, Inc.
- eTrans2020
- Swiit Apps
- Azimuth Systems
- Paxgrid Telemetric Systems
- AutoTech Technology Development
- Danlaw
- Oakland County Connected Car Task Force
- ALPS Electric North America
- Alpine Electronics Research of America
- R Systems
- STA Group LLC
- iBiquity
- San Francisco Municipal Transportation Agency (SFMTA)
- Hyundai America Technical Center
- peiker acustic, Inc

**Latest**
- Carnegie Mellon University

Connected Vehicle Pilots

Links:

ITS JPO Pilots Page
http://www.its.dot.gov/pilots/

FedBizOps
https://www.fbo.gov/index?s=opportunity&mode=form&id=4bb6693ac3021c178595d83fad3b5d73&tab=core&_cview=1
Contact Information

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- Test Beds: http://www.its.dot.gov/testbed.htm
“Make no little plans. They have no magic to stir men’s blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency.”
- Daniel Burnham

“I have always believed in planning big, and I have always discovered after the fact that, if anything, we didn’t plan big enough.
- Alfred Sloan