Automobile Manufacturing Industry Collaboration

The Business of IT: Transforming the Organization and the Vehicle

University of Michigan

September 15, 2010
VII Consortium – Who We Are…

- Industry consortium (Michigan 501 (c6) non-profit) consisting of nine light-duty vehicle manufacturers
- Committed to pursuing deployment of DSRC 5.9 GHz technology between vehicles and infrastructure for cooperative safety and other applications
VIIC Strategic Themes

- Leadership
- Partnership
- Communication, Outreach and Education
- Promote the Creation of a Stable Environment
- Research and Development
- Moving Toward Deployment
VIIC Member Collaboration

- Members collaborating on a pre-competitive basis
- Membership is good representation of the automobile manufacturing industry
- Diversity of views strengthens eventual agreements
- Current focus on development of policy positions for automobile manufacturers regarding potential deployment of 5.9 GHz DSRC for safety applications
IntelliDrive℠ & 5.9 DSRC*

* DSRC: Dedicated Short Range Communications

5.9 GHz DSRC
Safety and Mobility Applications

ITS

IntelliDrive℠
Evolution of Vehicle Safety

- Passive Safety Systems
- Autonomous Safety Systems
- DSRC-Enabled Cooperative Safety Systems

Increasingly Safer Vehicles

1960
2020+

VII CONSORTIUM
DSRC for Cooperative Systems

V2I & V2V using DSRC is an international phenomenon

Evolution from “Autonomous” to “Cooperative”

- **Japan**
  - 5.815-5.845GHz
  - 5.775-5.805GHz
  - Infrared Beacons 715M-725MHz

- **US**
  - 5.850-5.925GHz

- **Europe**
  - 5.875-5.905GHz
### Policy Roadmap for IntelliDrive: V2V and V2I

<table>
<thead>
<tr>
<th></th>
<th>CY2010</th>
<th>CY2011</th>
<th>CY2012</th>
<th>CY2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Device Certification</strong></td>
<td>Review, Stakeholder engagement, Develop guidelines, Certification Evaluation, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. CA for Security</strong></td>
<td>Develop scenarios, design, Conduct analysis, Modify CA model, Outreach engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. Risk Allocation/ Data Ownership</strong></td>
<td>Identify data, Evaluation, Develop/Modify model, Stakeholder engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D. C/B Analysis</strong></td>
<td>V2V applications CBA, Industry impact, Stakeholder engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Rules of Operation/ Application of Stds</strong></td>
<td>Review, Develop assessment, Analysis, Stakeholder engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F. Spectrum Analysis / FCC Role</strong></td>
<td>Assessment, Analysis, Identification, Coordinate with FCC, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G. Infrastructure for V2V/V2I Spot Safety</strong></td>
<td>Evaluation, Assessment, Needs, Stakeholder engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H. Governance Structure/Authority</strong></td>
<td>Assessment, Develop, Modify, Stakeholder engagement, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model Deployment</strong></td>
<td>Aftermarket device development</td>
<td>Device/ Vehicle updates</td>
<td>Aftermarket device development</td>
<td>V2V regulatory decision</td>
</tr>
<tr>
<td></td>
<td>Preliminary testing</td>
<td>Full scale testing</td>
<td>Preliminary testing</td>
<td></td>
</tr>
</tbody>
</table>

---

**VII CONSORTIUM**
Key Policy Questions

Will customers accept communication systems in their vehicles?

Who has access to the information, network, vehicle, and data?

What information is recorded?

Will customers feel that their privacy has been violated?

Who owns, maintains, and operates the national network?

Who is ultimately responsible?
Collaboration with CAMP VSC3 Consortium

- Technical research on vehicle safety communications being conducted by CAMP VSC3 Consortium under cooperative agreements with USDOT

- Technical developments from CAMP research provide inputs to VIIC policy development

- Policy questions raised by CAMP technical research provide topic areas for VIIC policy development

- Policy development activities at VIIC raise technical questions for CAMP research consideration
Collaboration with State DOTs

- Developing stronger cooperation with State DOTs through AASHTO
- Many common and compatible interests in 5.9 GHz DSRC deployment planning
- Safety benefits of special importance to VIIC and AASHTO
- Potential for realization of mobility improvements through crash avoidance warning applications enabled by 5.9 GHz DSRC
Collaboration with USDOT

- Ongoing cooperative policy research program with RITA Joint Program Office
- Future additional cooperative support planned for IntelliDrive℠ Strategic Research Roadmap activities
- Expect increasing cooperative engagement with NHTSA, FHWA and other modal agencies with focus shifting from research to deployment planning
Communication, Outreach and Education

- Evaluate and document the benefits and risks of 5.9 GHz DSRC safety investment (from a car owner’s perspective)

- Create a comprehensive, national outreach strategy

- Enhance VIIC’s position as the voice for 5.9 GHz DSRC cooperative safety within the vehicle manufacturing community

- Develop compelling speeches for delivery to senior executives and elected officials

- Create an environment of public awareness and public acceptance of 5.9 GHz DSRC cooperative safety within the IntelliDrive™ initiative
Summary

VIIC is providing leadership toward 5.9 GHz DSRC deployment planning through effective cooperation with major stakeholders and the public.

The public is the largest beneficiary for the realization of potential improvements for safety, congestion mitigation and environmental stewardship enabled by the effective deployment of nationwide 5.9 GHz DSRC systems.
Thank You