Vehicle Safety Communications – Cooperative Systems Saving Lives

Richard Harris
Director Intelligent Transport Systems
Logica

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Logica

- Logica – global IT service company
- Specialise in ITS
- Innovation, client centric
- Active in ~40 countries with ~40 000 employees
- Systems Integration of the CVIS demonstrations
- Members of ERTICO, National ITS Associations
- Supporting the EC with the ITS Action Plan and Directive
- World Road Association (PIARC) and the PIARC/FISITA JTF on ICS
- Leading ITS organisation in Europe
- Unlock the community-wide benefits of ITS
ITS: Policy and strategy drivers

**Authorities**
- Safety
- Efficiency
- Mobility
- Environment
- Economy
- Quality of life
- Health
- Inclusion

**Business sector**
- Compliance
- Competitiveness
- Service levels
- Scalability
- Loyalty
- Stakeholders
Intelligent Transport Systems

- Safer
- Surer
- Smoother
- Smarter

- Support Policy
- Enabled by technology
- Capture benefits
- Realise potential
- Work differently
ITS Development

- 2634 BC Chinese Chariot
- 1760 H4 Longitude (John Harrison)
- 1844 Samuel Morse
- 1857 Elisha Graves Otis
- 1912 New York Heat wave (1200)
- 1973 Job Klijnhout (AID)
- 1983 Korean Airlines (269 killed)
GPS & Galileo
Authority view of ITS operational concepts

- Journey Time
- Public Transport Arrival Times
- Bus Timetables & Routes
- Congestion
- Delays
- Incidents
- Road works
- Events
- Air Quality
- Business Case / Policy

Monitor

Inform

Authorities

Control

- Car Park Spaces
- CCTV
- Reduce Delays & Congestion
- Public Transport
- Access Control
- VMS Signs & Diversions
- Network Management
- Demand Management
- Reduce Pollution
- Improve Safety & Accessibility

Benefits

Governance Issues
Capture once use many
Data Collection
Processing and exchange
Public Transport Information and Payment
Smart: Logistics, Manufacturing, Retail
Saving lives in France

- 4000 lives saved during first year of operation
- 11000 lives saved 4 years
In-car services
Extended Floating Car Data
Multiple services
Ubiquitous connectivity
The vision: “Connected” Road Network operations

- Network control and advisory systems
- Traffic management
- Network monitoring
- Enforcement
- Information systems
  - Linked to micro-level technology
  - Available to individual road users
  - Built into cars/trucks
USA: “IntelliDrive”

- Safety Technology for Situational Awareness Around the Vehicle
- Autonomous technology
- Vehicle to vehicle connectivity
- Vehicle to infrastructure connectivity
- Initially: inform driver
- Ultimately: not crash

DSRC is key
## "IntelliDrive" Applications

### Intersections
- Red Light Running
- Running Stop Sign
- Gap Assist-Signalized
- Gap Assist- Stop Control

### Speed Applications
- Curve Overspeed Warning
- School Zone - Speed Warning
- Work Zone - Speed Warning

### Smart Roadside
(Commercial Vehicles)

### Pedestrian and other Road Users
- Wireless Roadside Inspection
- Universal Truck Identification
- Virtual Weigh Station/E-Screening
- Truck Parking Information
- Work Zone Alert
- Transit Applications
- Pedestrian Detection for Warnings & Alerts

**Under consideration**
Japan: “Smartway” safe driving support

- Blind curve on the Expressway accidents reduced by 60%
- Distributed Processing based on roadside sensor
- Transmission of incidents - congestion and accidents
- 10% with in-vehicle units 90% of drivers responded
- Non equipped vehicles: just 50% of drivers responded to the road-side signs
Japan: Deployment of ITS Spots

Around 1,600 ITS spots are installed mainly on the expressways nationwide. Around 50 ITS spots are installed at the expressway rest areas.

For example, on the Tokyo Metropolitan Expressway, 32 ITS spots are installed in FY2009, and 166 ITS spots are installed in 2010.

ITS Spot will be installed around every 10-15 km including the points of before Junction (around 90 points) on the intercity expressways and around every 4 km on the urban expressways.

●: in service  ●: service will start on the winter in FY2010
European Cooperative Mobility

Cooperative Mobility means:
- Interconnection of vehicles and infrastructure
- Creation and sharing of new kinds of information
- Enhanced cooperation amongst drivers, vehicles and roadside systems
- Experience from CVIS and SPITS
- Included in the EC ITS Action Plan and Directive

... an attractive option contributing to safer, cleaner, and more efficient and sustainable traffic solutions ...
Progress towards deployment

International Cooperation:
- US DOT and EC DG INFOSOC
- US DOT and Japan
- EC DG INFOSOC and Japan
- PIARC/FISITA Joint Task Force

Regional deployment models
- Vehicle movement and transfer

Developing countries
- Skip generations and go for deployment
- Based on a transport and ITS policy plan
- Key element of PIARC work
Issues

Road operators
- Evidence of benefits
- Stable systems approach
- Access to data
- Liability and privacy
- Change how they operate
- Cost

Automotive Sector
- How to engage with road operators
- Public investment
- Road side equipment
- Standards
- Liability and privacy
- Investment
Is there a business case

Deployment of inter-connected cooperative systems will require:
- A commercial case for investment
- A public case for deployment, fitting in with current road network operations practice
- Proof of consumer and societal benefits
- A workable “connected vehicle” operations model
- The means to manage deployment challenges

Needs Political, financial and operational justification!

Tackle the organisational issues
PIARC/FISITA Joint Task Force focus – accelerate deployment
My concern – failure will mean just V2V
Thank you

Richard Harris

rich.harris@logica.com
www.logica.com/ITS

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