

DSRC and Ad-hoc Network development in Japan



September 2, 2005
Cologne, Germany

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ITS Info-Communications Forum, Japan

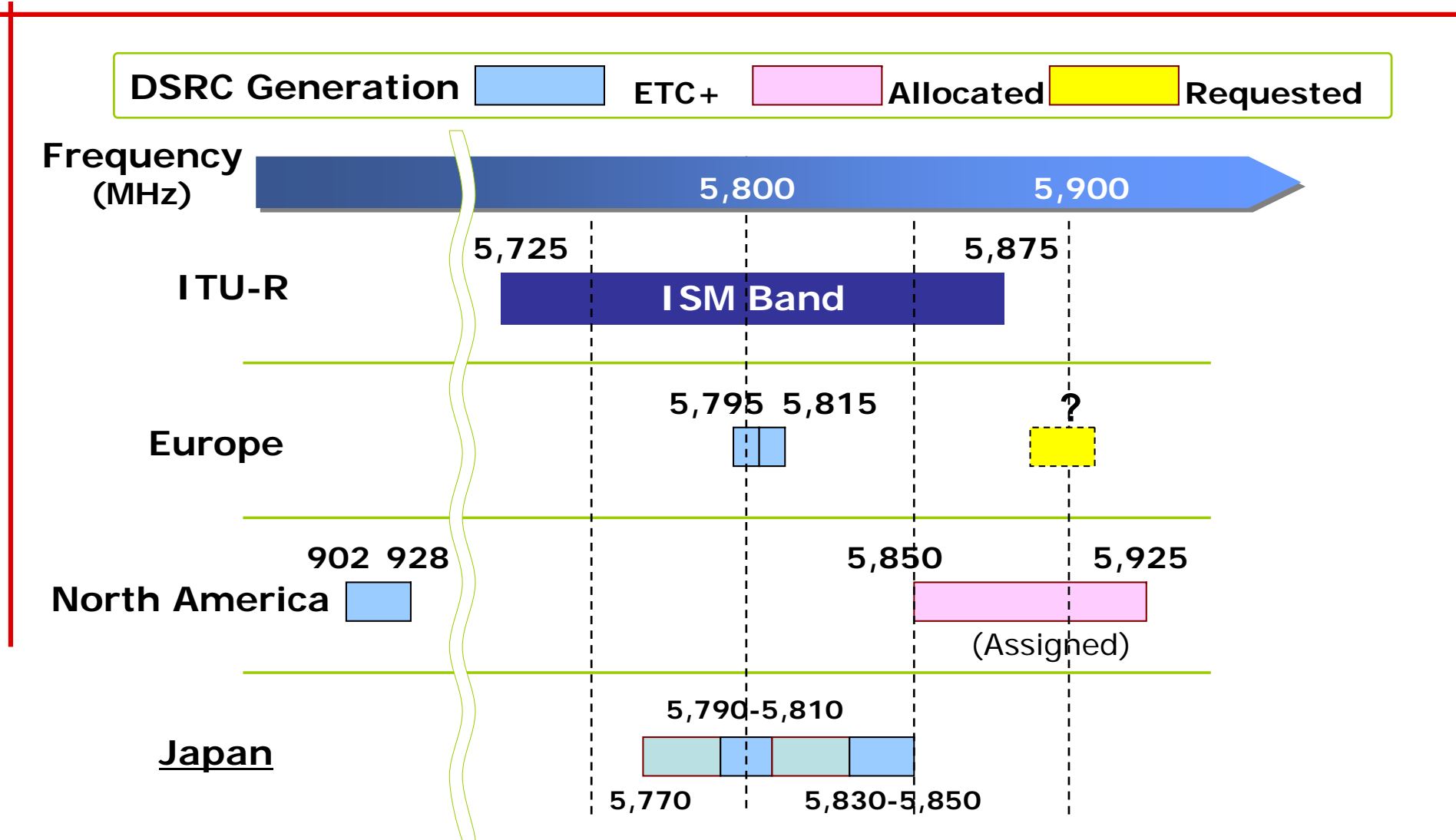
Contents

- DSRC Standards in Japan
- DSRC Standards in ITU-R
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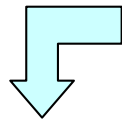
- *ASV International Symposium in Tomakomai, Hokkaido, Japan (October, 2005)*



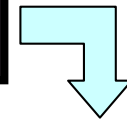
Spectrum for DSRC



Lower Layer



ITU-R Recommendation M.1453-2



Item	Europe(CEN)	North America	Japan
Frequency Band	5.8 GHz	915 MHz (5.9 GHz)	5.8 GHz
Communication System	Passive	Active & Passive	Active
Maximum Data Transmission Rate	Downlink:500kbps Uplink :250kbps	915MHz (Down/Uplink) :500kbps (5.9GHz: 27Mbps)	Down/Uplink: 1 or 4 Mbps
Outline of Protocol	Asynchronous	Synchronous & Asynchronous	Synchronous
Standards	CEN	(IEEE802.11p & 1609 Family)	ARIB STD-T75 & T88

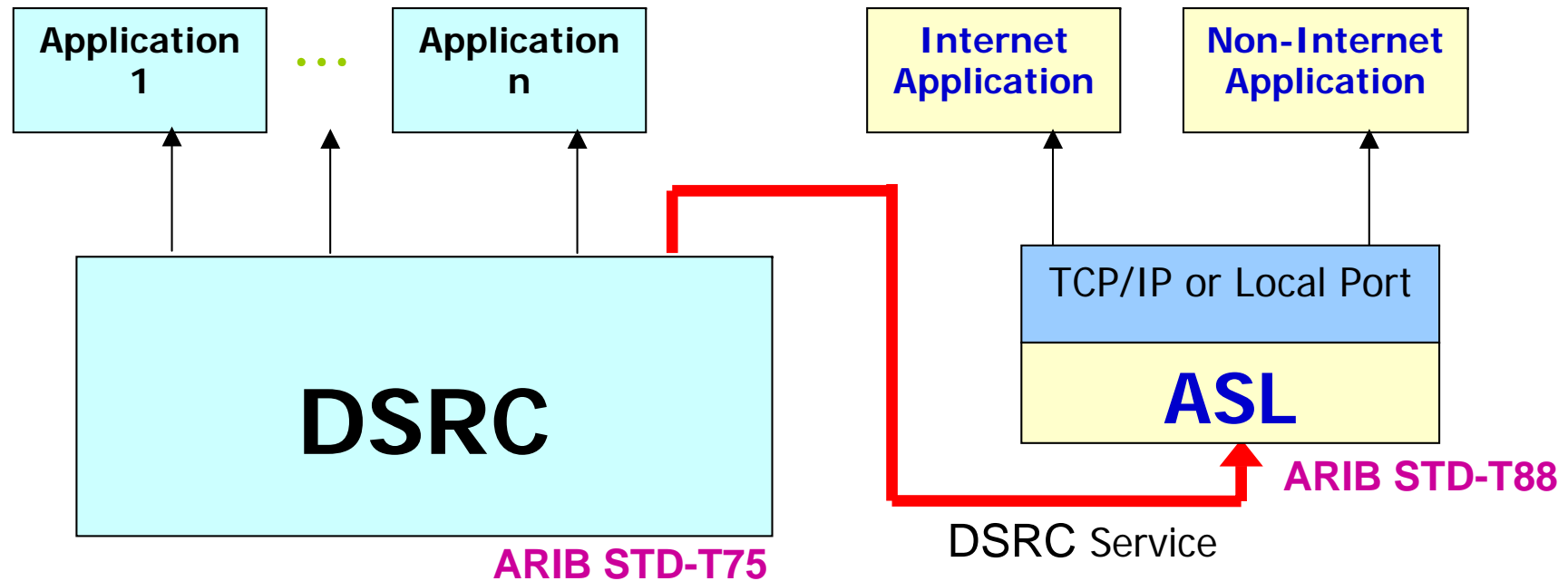
ARIB: Association of Radio Industries and Businesses

September 2, 2005

DSRC: ARIB Standards

ITU-R Recommendation M.1453-2

New with ASL

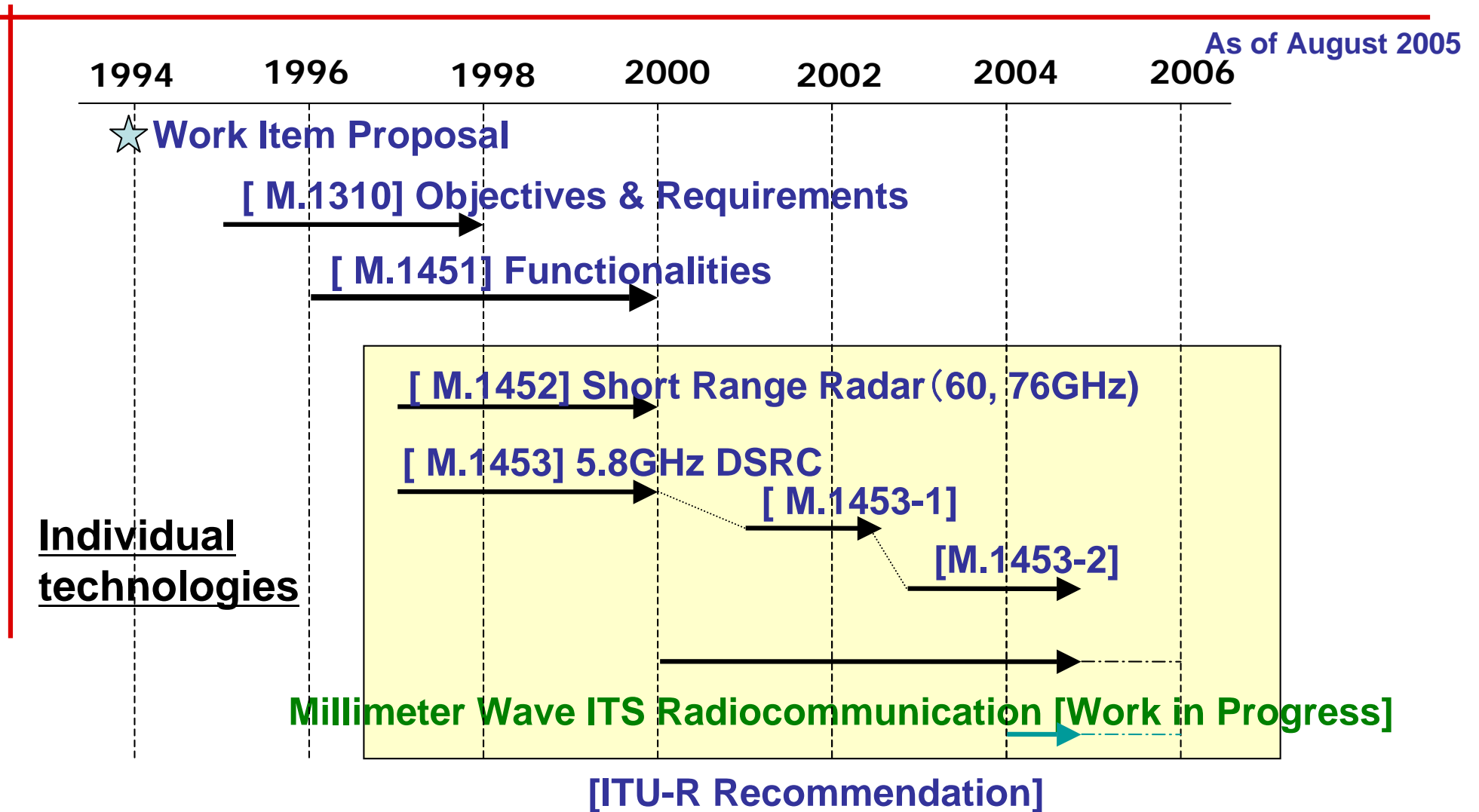


Basic DSRC

Application Sub Layer

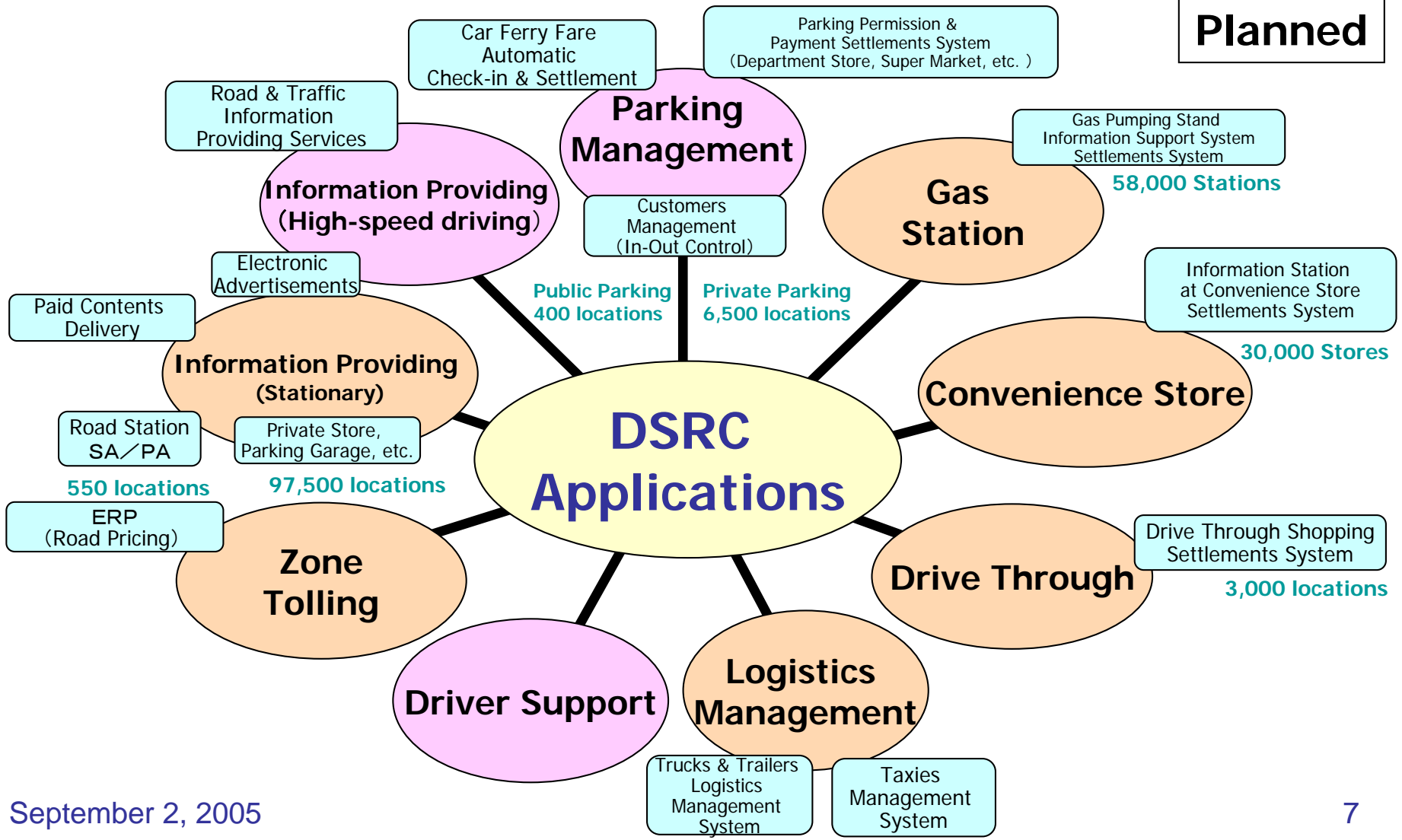
ITU-R: ITS Recommendations

As of August 2005



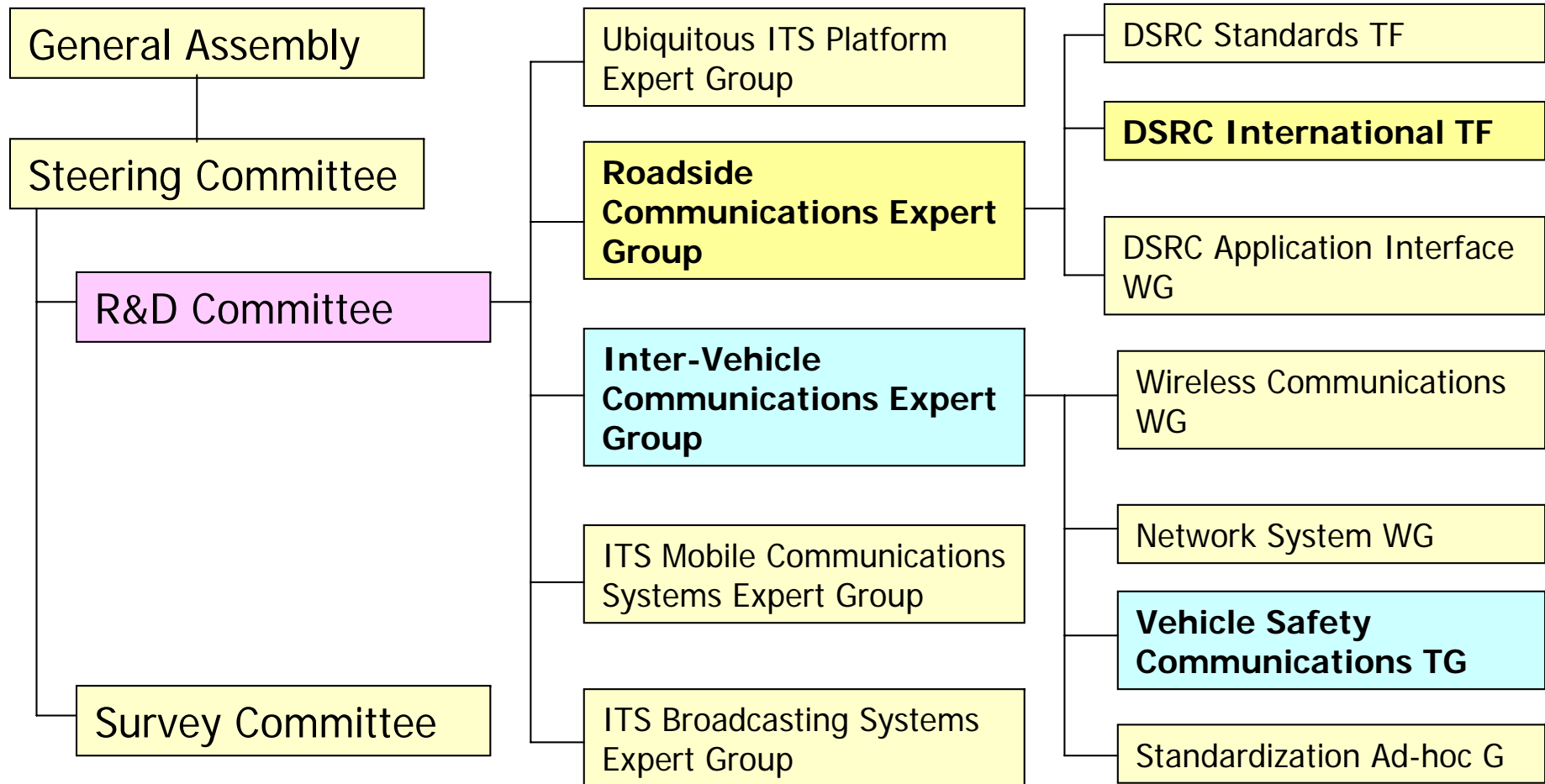
DSRC Applications in Japan

Planned

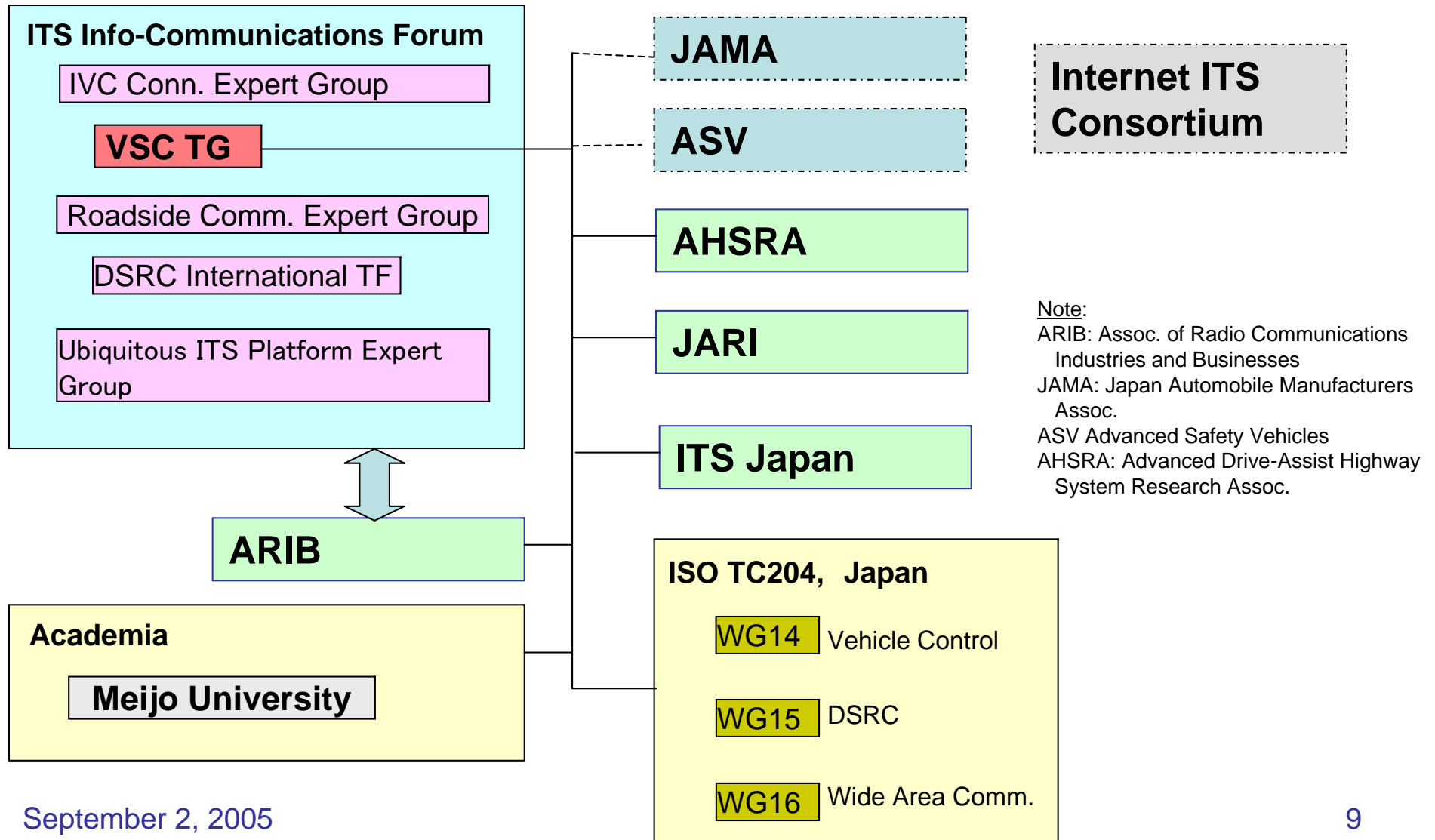




ITS Info-communications Forum, Japan



VSC Related organizations - Japan





Ad-hoc Network R&D - Japan



(1) Ad-hoc Network Platform Consortium

- Establishment: December 2003
- Chair: Prof. Ken-ichi Mase (Niigata Univ.)
- Member: University(14) & Industry (14)
- Accomplishment:
 - ✓ Built 50 nodes ad-hoc network test bed in Niigata Univ.
 - ✓ Experiment on large scale ad-hoc network using the test bed.
 - ✓ Ad-hoc network workshop (3 times)



Ad-hoc Network R&D - Japan

(2) Internet ITS Consortium



- Member: Automotive manufacturer & supplier, telecom operator and equipment manufacturer, and others. (Total 103)
- Network Platform SIG:
 - ✓ Specifications of V-V and V-R communications
- Field Tests on Ad-hoc V-V Communications :
 - ✓ Hitachi, Aisin, Keio Univ. and ITOCHU, respectively



Ad-hoc Network R&D - Japan



(3) Field Tests: IVC ad-hoc Communications

Organization	HITACHI	Oki Electric	NiCT / KDDI	ITOCHU
Comm. Media	IEEE802.11b EV-DO	DSRC	IEEE802.11b PHS	-
Muli-hop	OLSR	None	AODV	-
Comm. Link	V-V (WLAN) V-R (WLAN) V-Center (EV-DO)	V-V (DSRC)	V-V (WLAN) V-R (WLAN) V-Center (PHS)	V-V (-) V-R (-)
Roaming between media	Seamless roaming by Mobile IP(v6)	—	Switching by signal strength	?
AP	Video Emergency Traffic Info. Location Info.	Video Phone	?	Video Phone Traffic Info.



ASV-3 IVC Meeting 2005

Demonstration and International Symposium for IVC
Organized by The Ministry of Land, Infrastructure and Transport



Date: 12-13 October 2005

Time: 9:00 to 17:00

Objective:

- To experience the effectiveness of each system applications
- To confirm the driver's acceptability of the system

Number of vehicles:

18 vehicles with the system

Passenger car 10

Motorcycle 4

Truck/Bus 4

Location: [Cold district research test course](#)

Civil Engineering Research Institute of Hokkaido

Tomakomai city, Hokkaido, Japan

International Symposium

Date: 14 October 2005



Objective:

- International publicity of results of ASV-3 project
- International harmonization with the other IVC related consortiums

Scale:

Number of participants : 200

Place : **Grand Hotel New Oji Convention Hall**

Tomakomai city, Hokkaido, Japan

Tel : +81-144-31-3111 Fax : +81-144-31-3131



International Symposium

International Symposium



Agenda

1. Opening
 - Forecast of IVC
2. Current status of communications for vehicle safety
 - Japan, Europe and US
3. Current status of ASV
 - ASV with exchange information
 - Technical issues toward ASV deployment
 - Field test for system proofing: Items and results
4. Panel discussions
 - Toward deployment of Vehicle safety using vehicle to vehicle communications
5. Closing



ASV-3 IVC Meeting 2005



Please participate in
The ASV-3 IVC Meeting 2005

Participating mail address

ASV@exc-dmk.co.jp

Organizer

The Ministry of Land, Infrastructure and Transport

Collaborative research

Japanese 14 Automotive Manufacturers

International symposium liaison

ITS Info-Communications Forum, Japan