

DSRC Standards Development in ITU-R and Japan

SS30: Future ITS Wireless Communications



November 10, 2005
San Francisco, U.S.A.

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ITS Info-Communications Forum, Japan



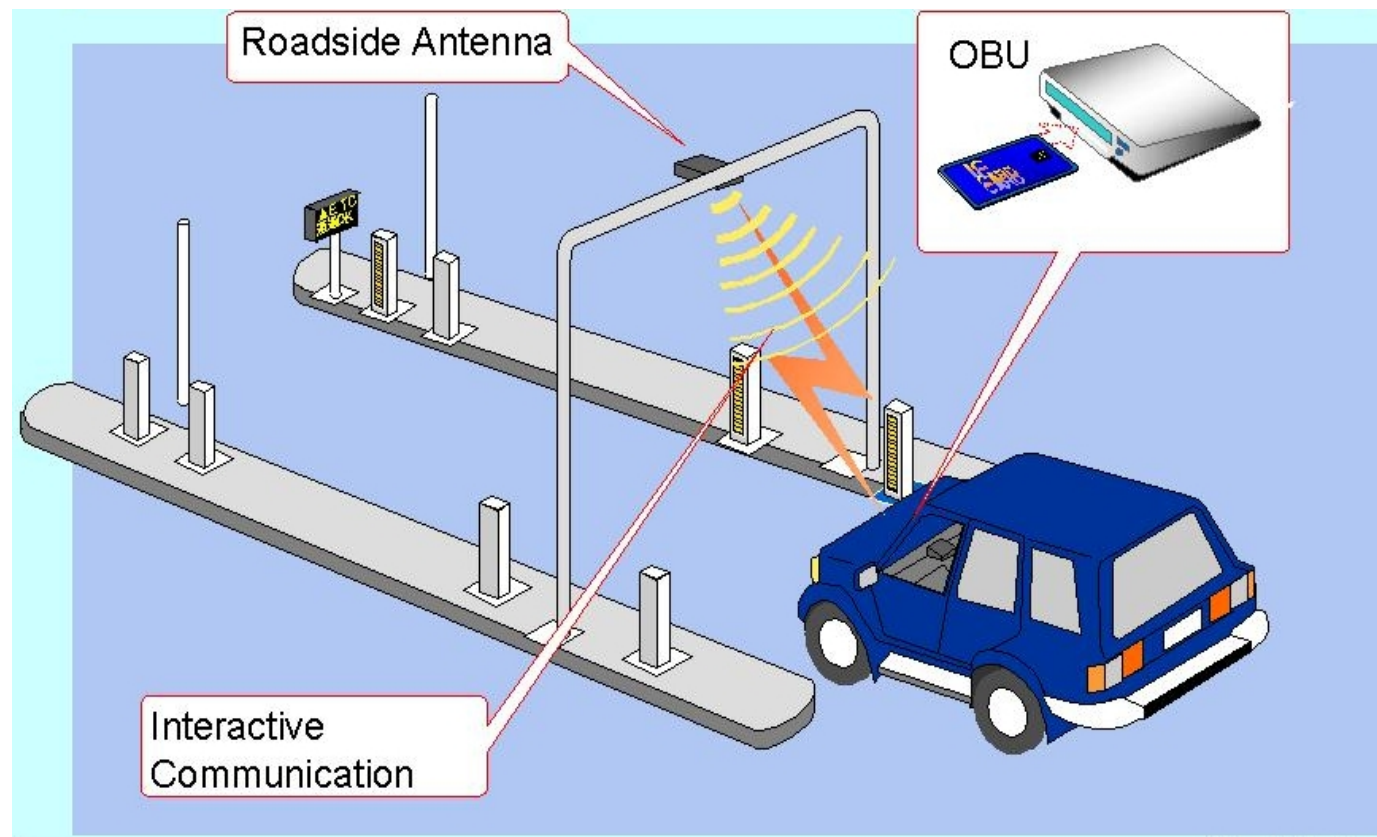
Contents

1. What is DSRC?
2. DSRC Standards
3. ITU-R
4. DSRC in Japan
5. VSC
6. Conclusion



1. What is DSRC?

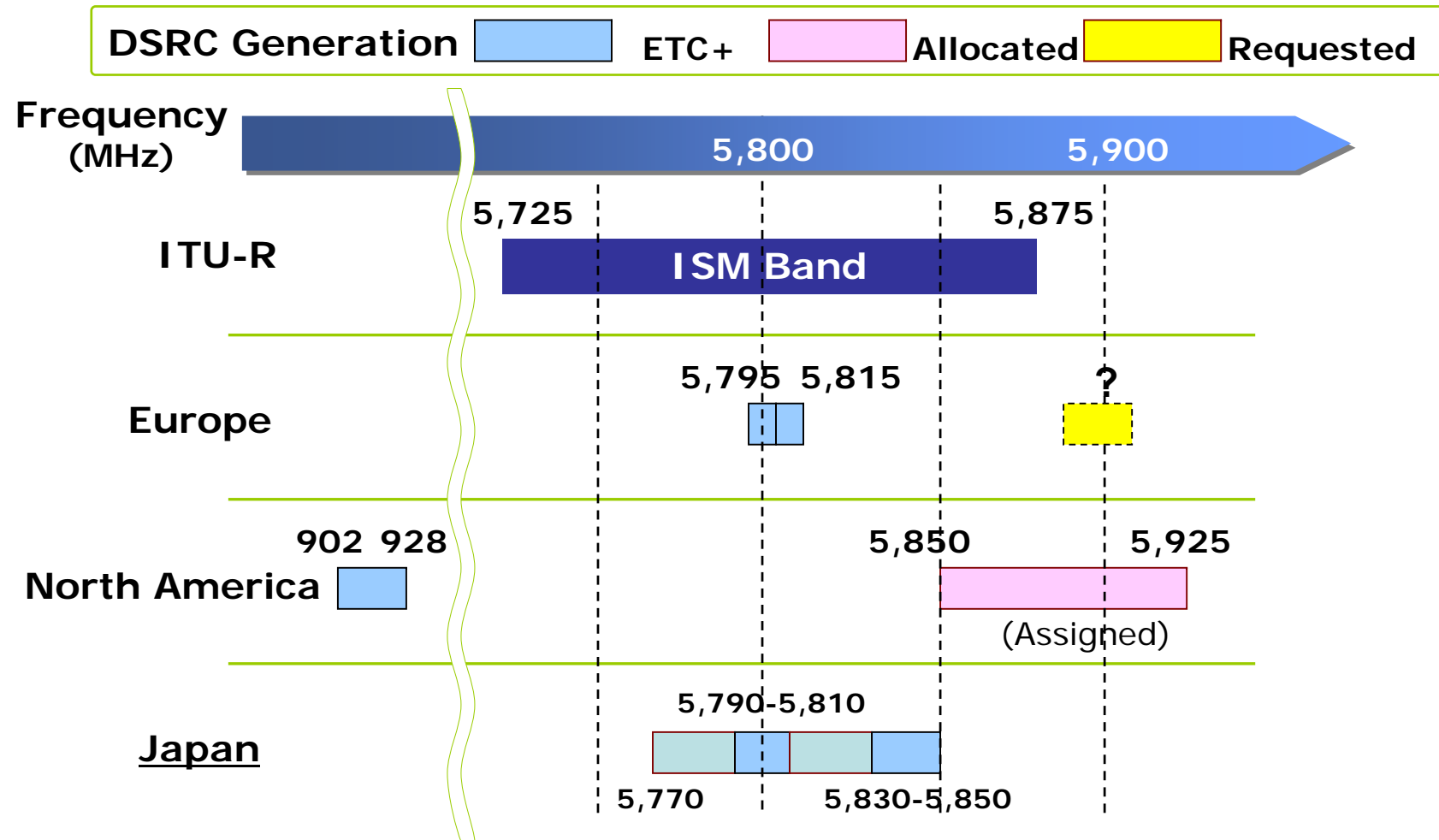
Dedicated Short Range Communication





2. DSRC Standards

DSRC: Spectrum





2. DSRC Standards



DSRC: Global Standards

Lower Layer

ITU-R Recommendation M.1453-2

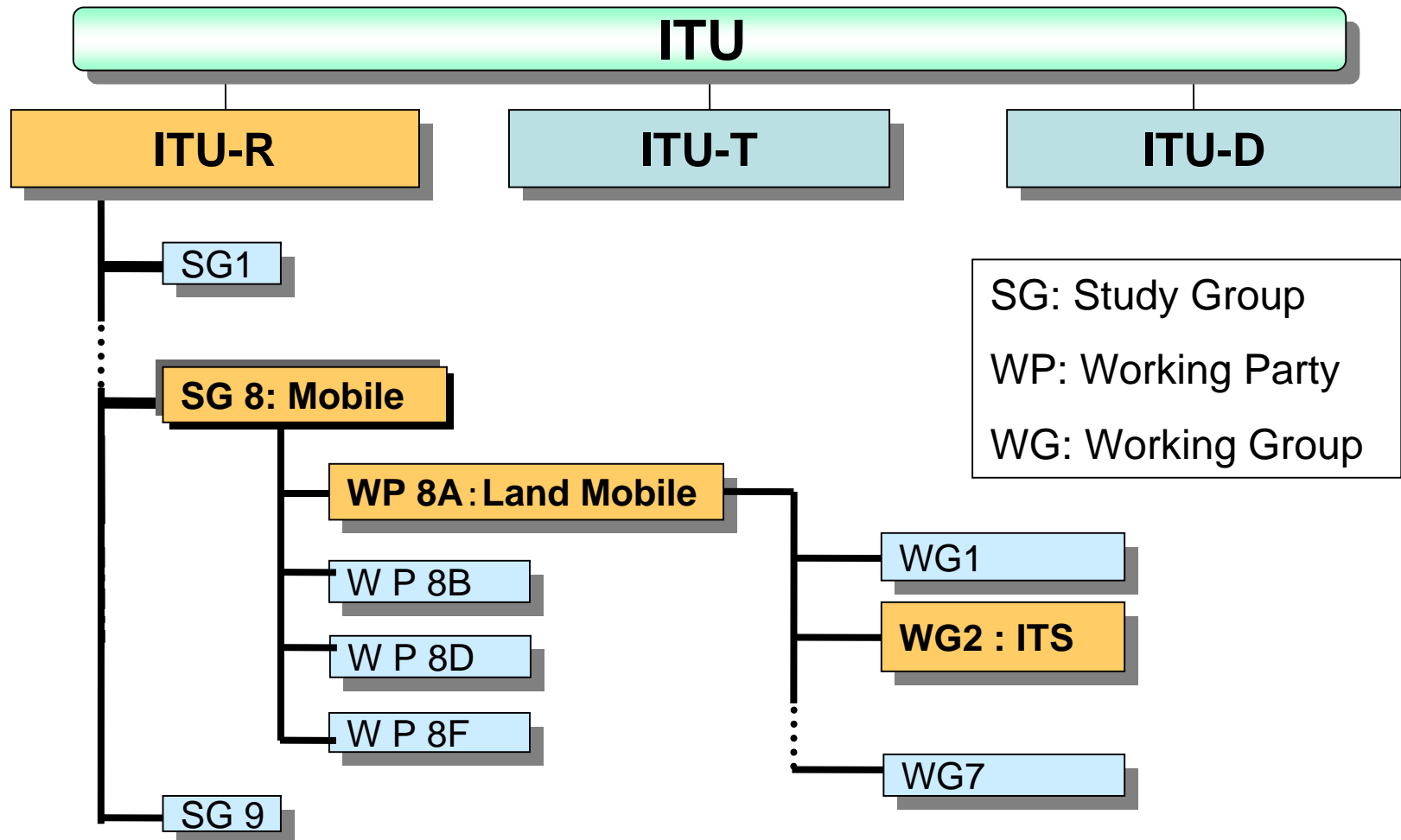
Item	Europe	North America	Japan
Frequency Band	5.8 GHz	915 MHz (5.9 GHz)	5.8 GHz
Communication System	Passive	Active & Passive	Active
Maximum Data Transmission Rate	Downlink: 500kbps Uplink : 250kbps	915MHz (Down/Uplink) : 500kbps (5.9GHz: 27Mbps)	Down/Uplink: 1 or 4 Mbps
Outline of Protocol	Asynchronous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

ARIB: Association of Radio Industries and Businesses

November 10, 2005



3. ITU-R ITU Organization

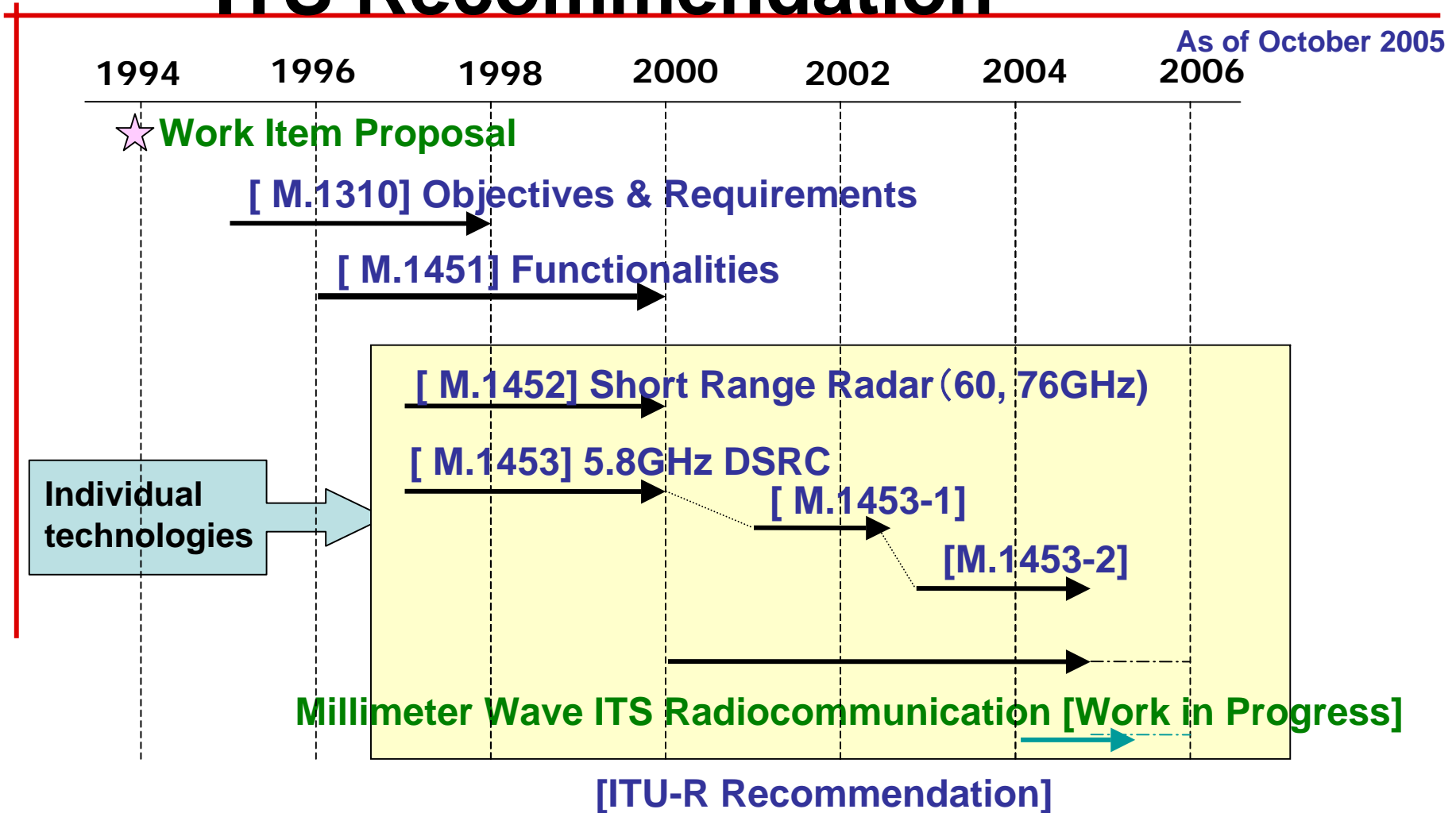




3. ITU-R



ITS Recommendation





3. ITU-R

ITU-R SG8 WP8A

Recent Major Achievement on ITS

**Recommendation ITU-R M.1453-2
“DSRC at 5.8GHz” has been approved
by RA on June 2005.**

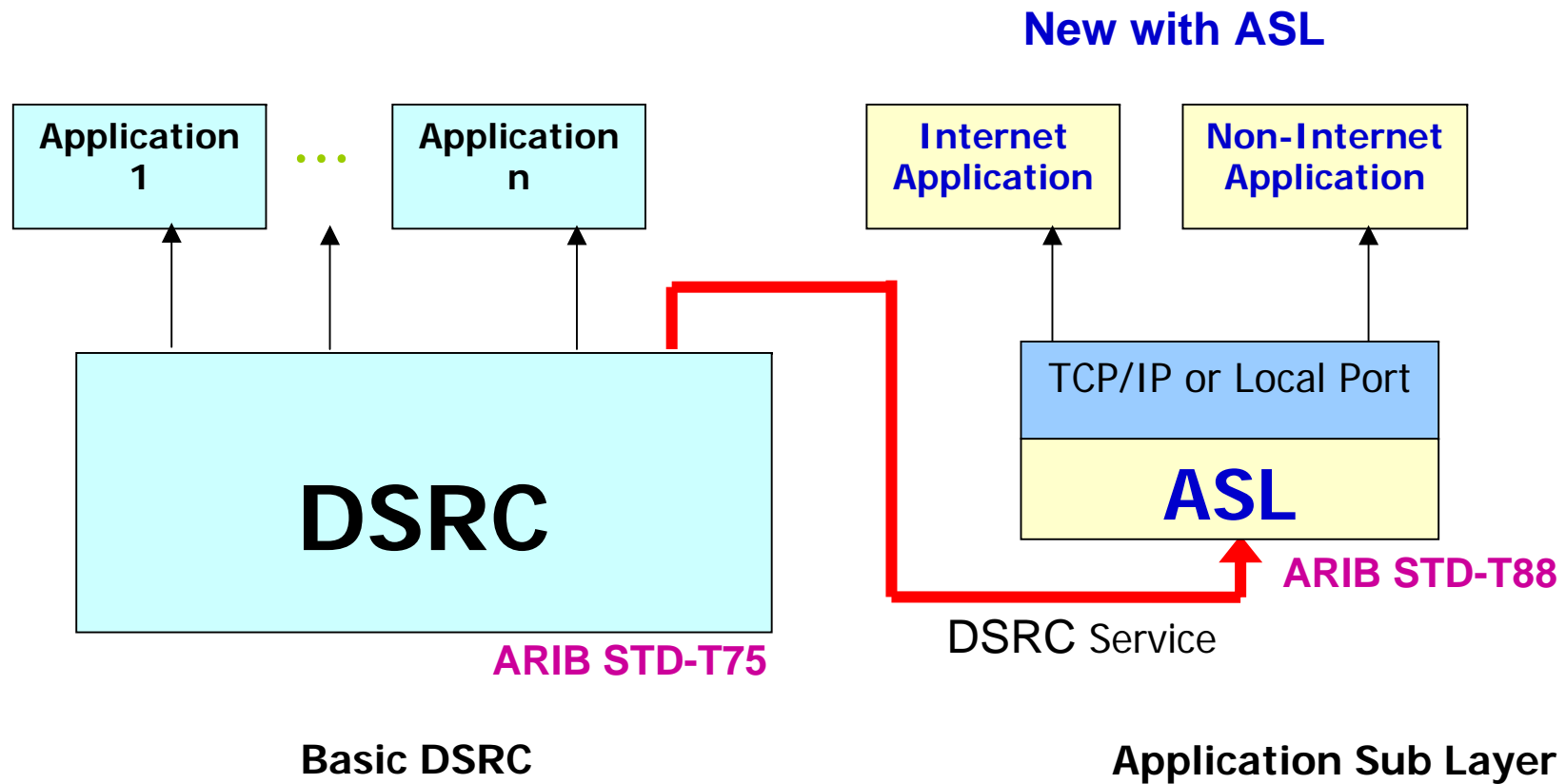
- Contributed from Japan thorough ASTAP ITS-EG / APT
- Added Application Sub Layer (ARIB STD-T88 has been added) to the M.1453-1.



3. ITU-R

DSRC Recommendation

ITU-R Recommendation M.1453-2





3. ITU-R

ITU-R SG8 WP8A

17th ITU-R/SG8/WP8A Meeting

September 22-28, 2005. ITU (Geneva)

- Major Topics on ITS:
 - Working Document toward PDNR - Doc.8A/232
“Integrated Millimeter Wave ITS Radiocommunications”
 - Draft New Report: - Doc.8/90
“Software-defined Radio in the land mobile service”
 - Draft: Land Mobile Handbook, Vol.4, ITS



3. ITU-R

ITU-R SG8 WP8A

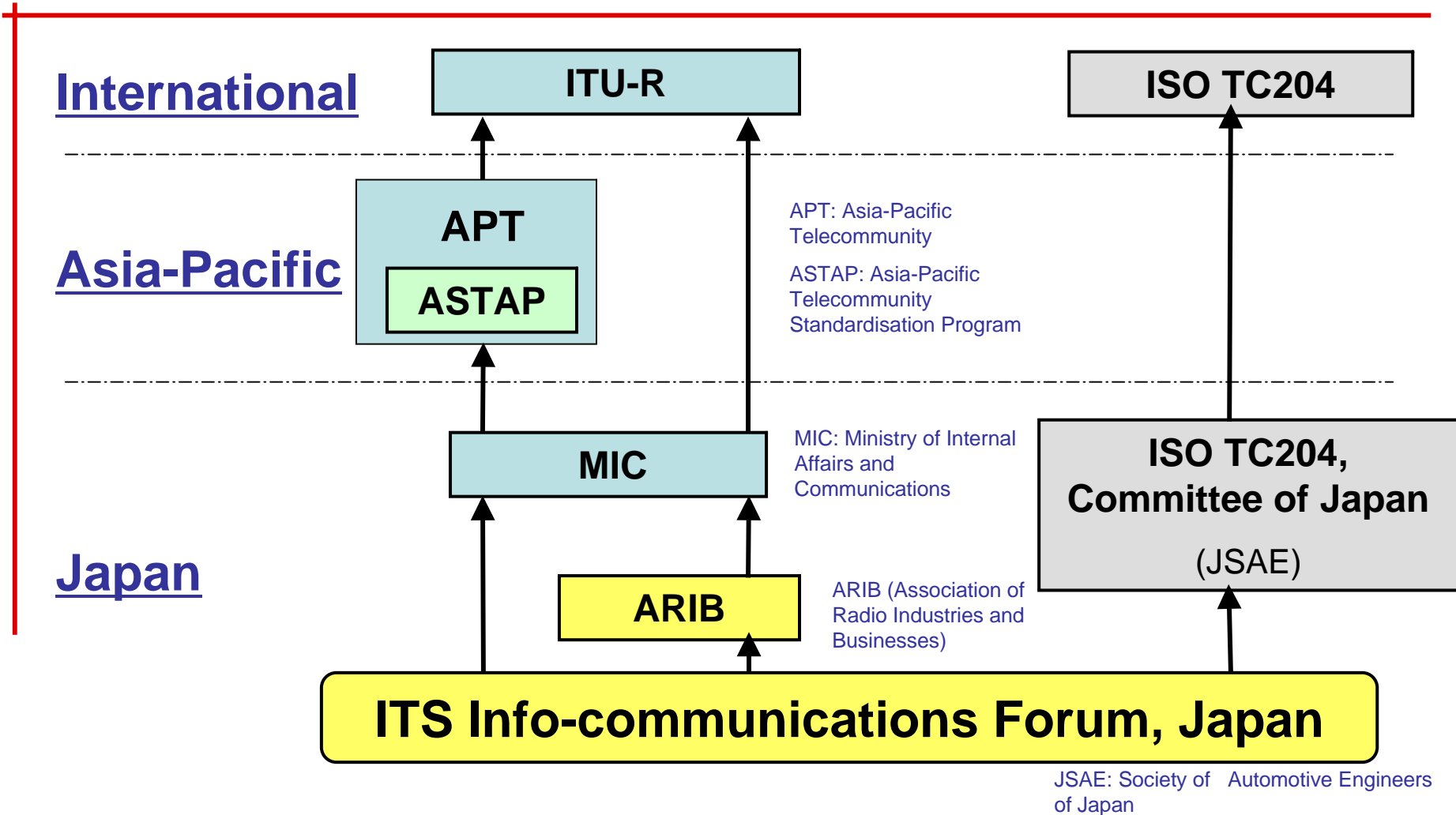
Next ITU-R/SG8/WP8A Meeting

March 21-30, 2006, ITU (Geneva)

- Major Study Items:
 - Discussion on “Integrated Millimeter Wave ITS Radiocommunication” by Japan.
 - Discussion on “Land Mobile Handbook: Vol.4, Intelligent Transport System”.
Editor: JT Oh, Korea, Republic of.



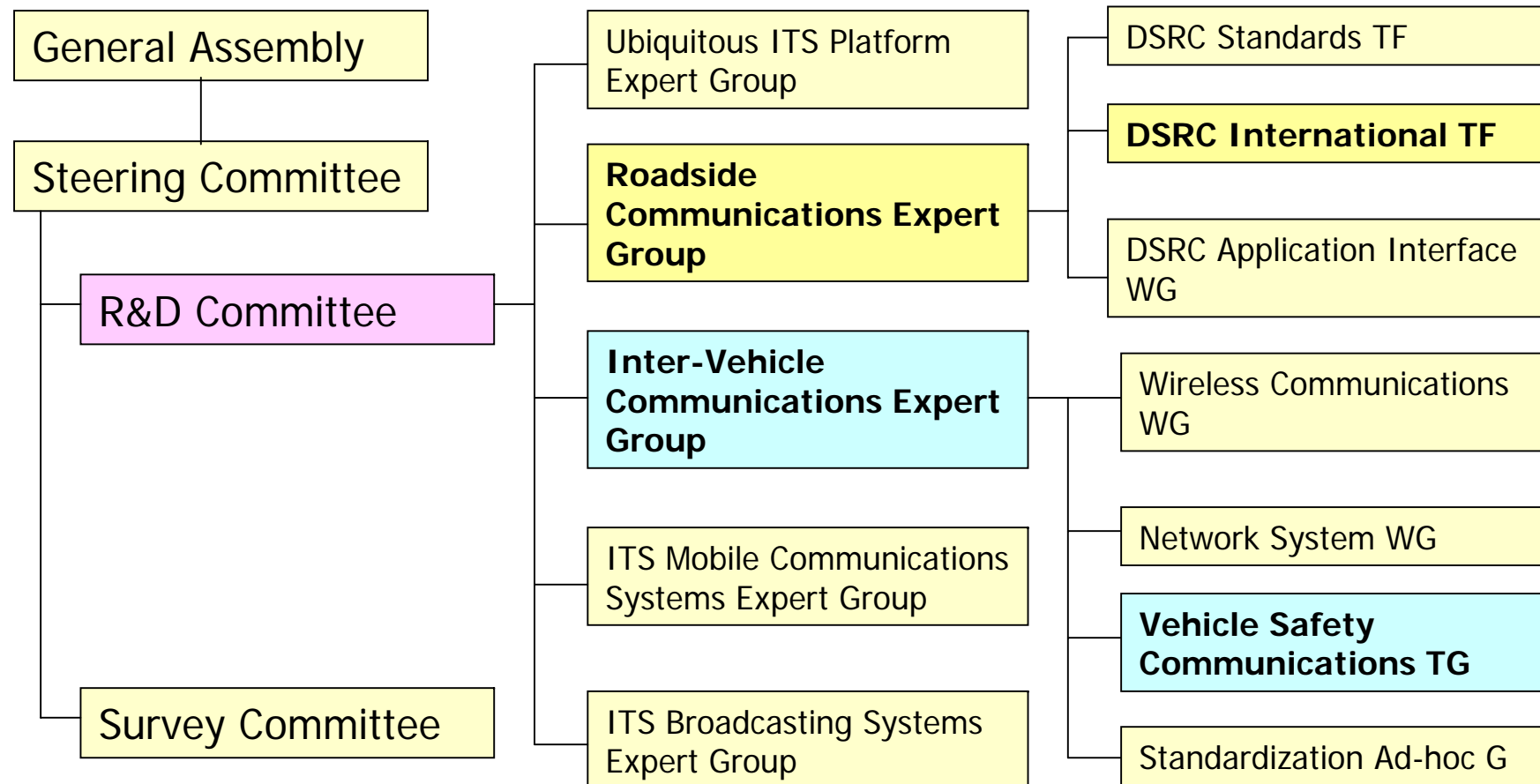
4. DSRC in Japan ITS Standards Procedure





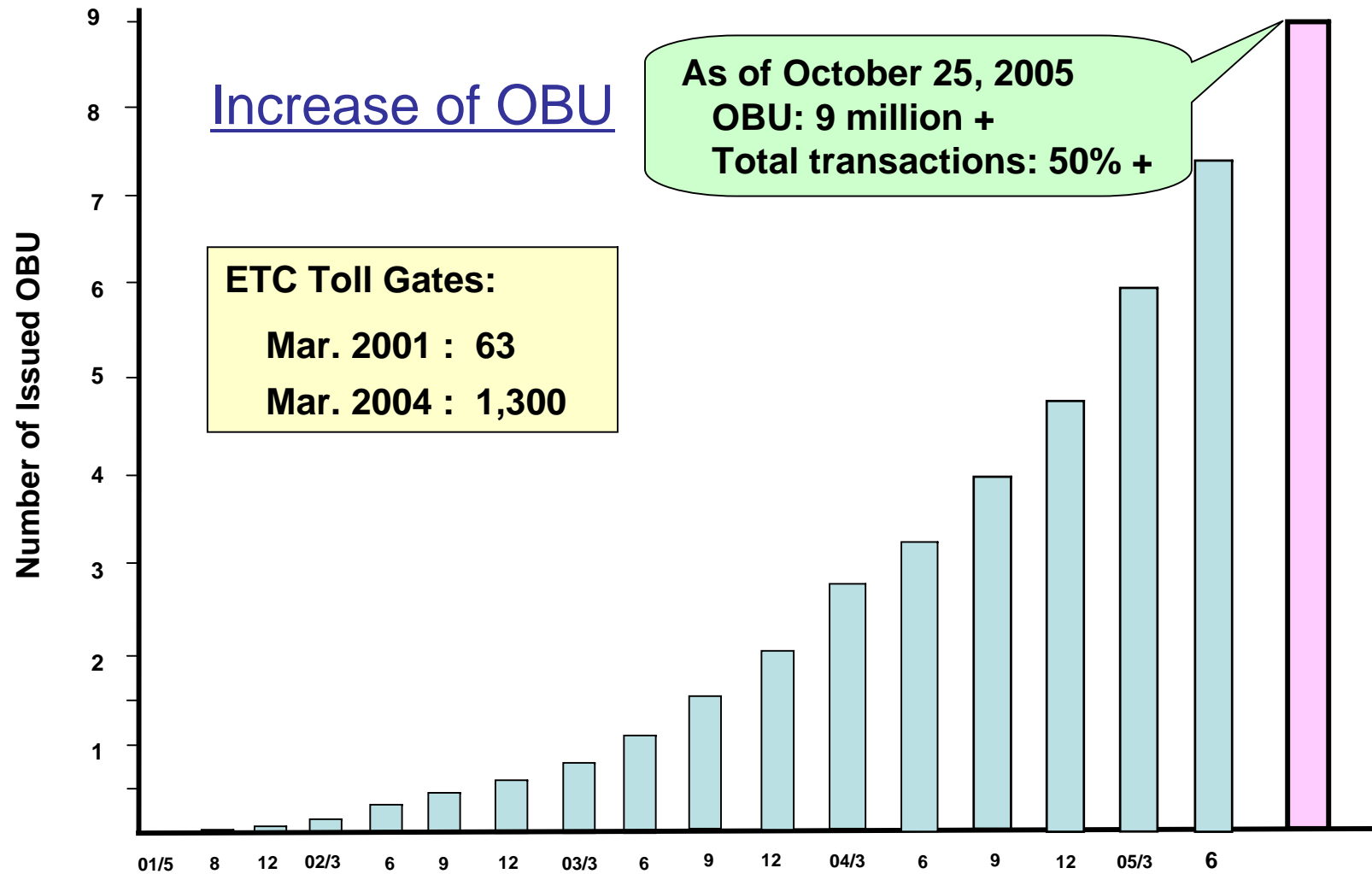
4. DSRC in Japan

ITS Info-communications Forum



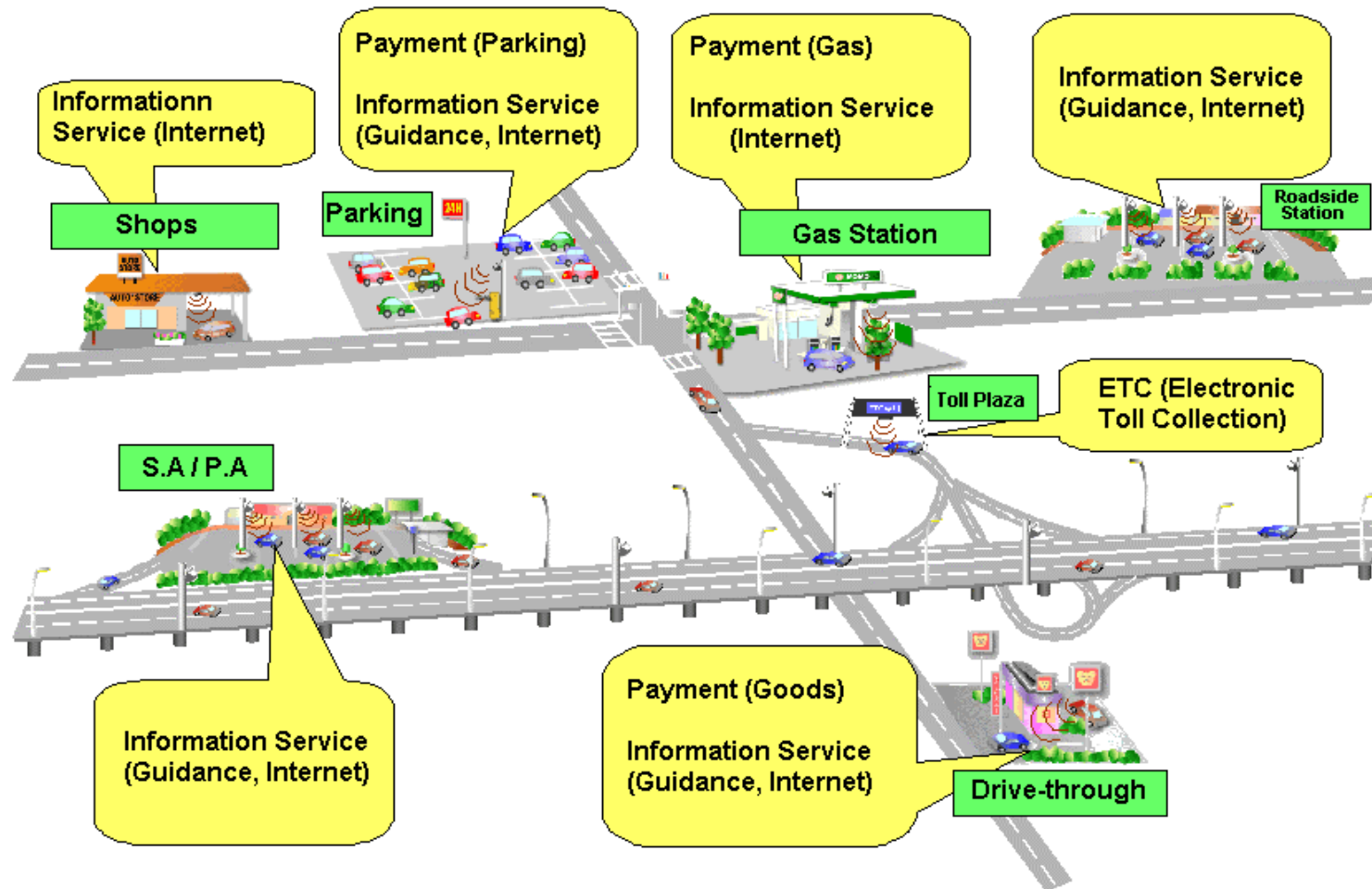


4. DSRC in Japan ETC



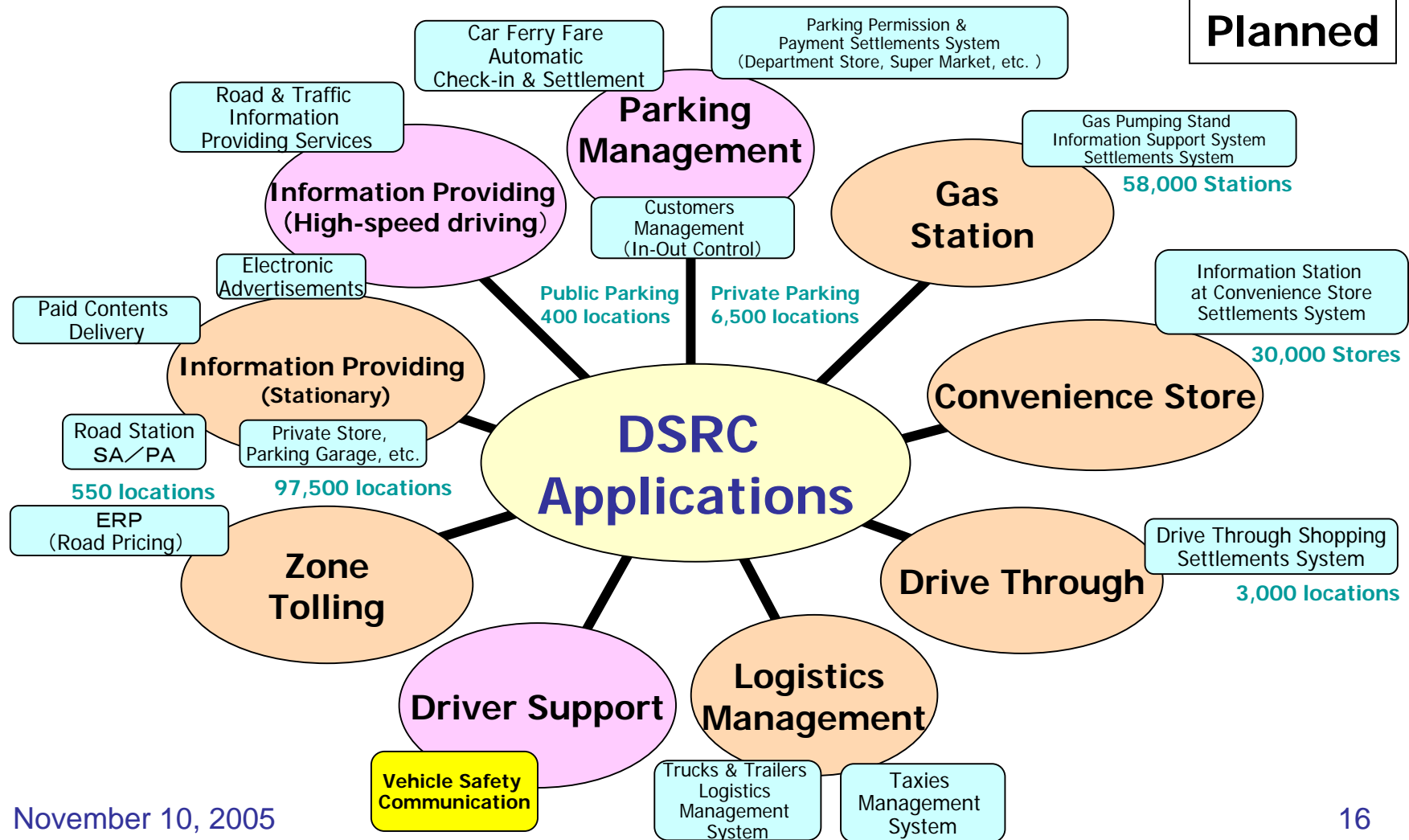
4. DSRC in Japan

Multiple Applications



4. DSRC in Japan

Multiple Applications





5. VSC

DSRC Application: VSC

Vehicle Safety Communications

for

Advanced Safety Vehicle

Communications, such as DSRC for safety

- *Vehicle to Vehicle (V-V)*
- *Vehicle to Roadside (V-R)*
- *Vehicle to Roadside to Vehicle (V-R-V)*



5. VSC

DSRC Application: VSC

International Harmonization Activities

VSC International Seminar & Workshop
September 3-5, 2003 (Tokyo)



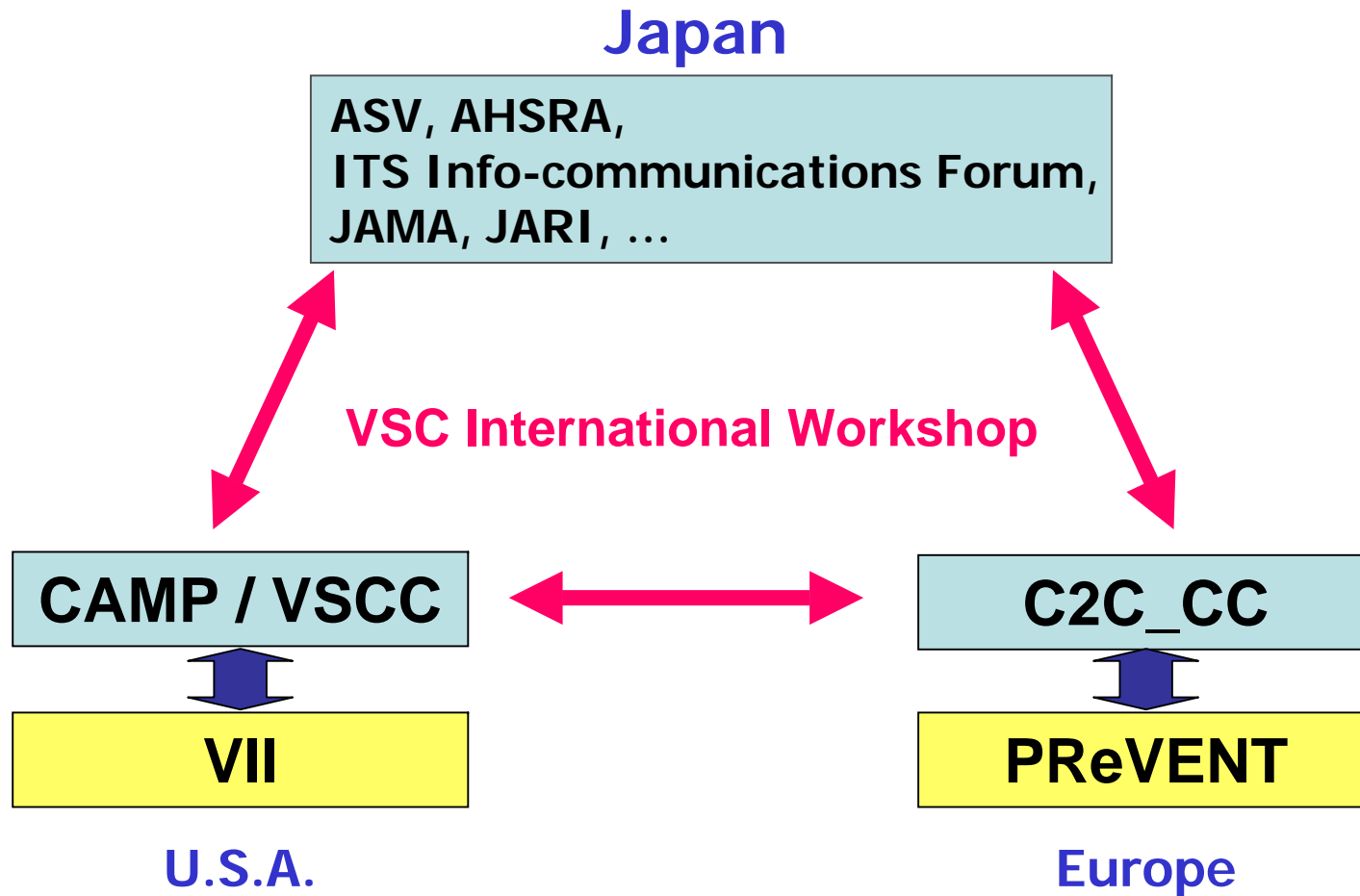
VSC International Workshop
May 31, 2005 (Hannover, Germany)



ASV International Demonstration & Workshop
October 1-15, 2005
(Tomakomai, Hokkaido, Japan)



5. VSC Related Organization

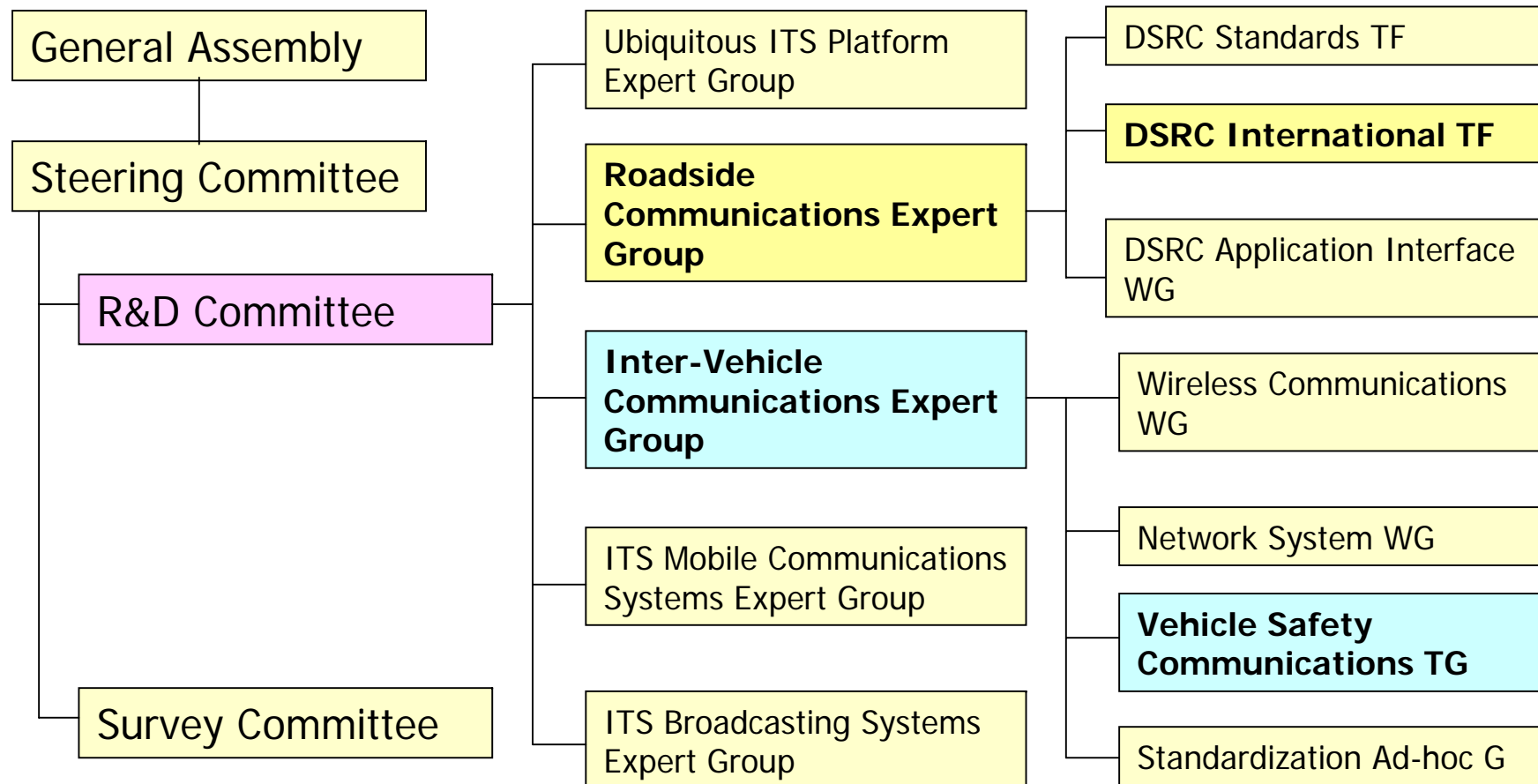




5. VSC



ITS Info-communications Forum, Japan

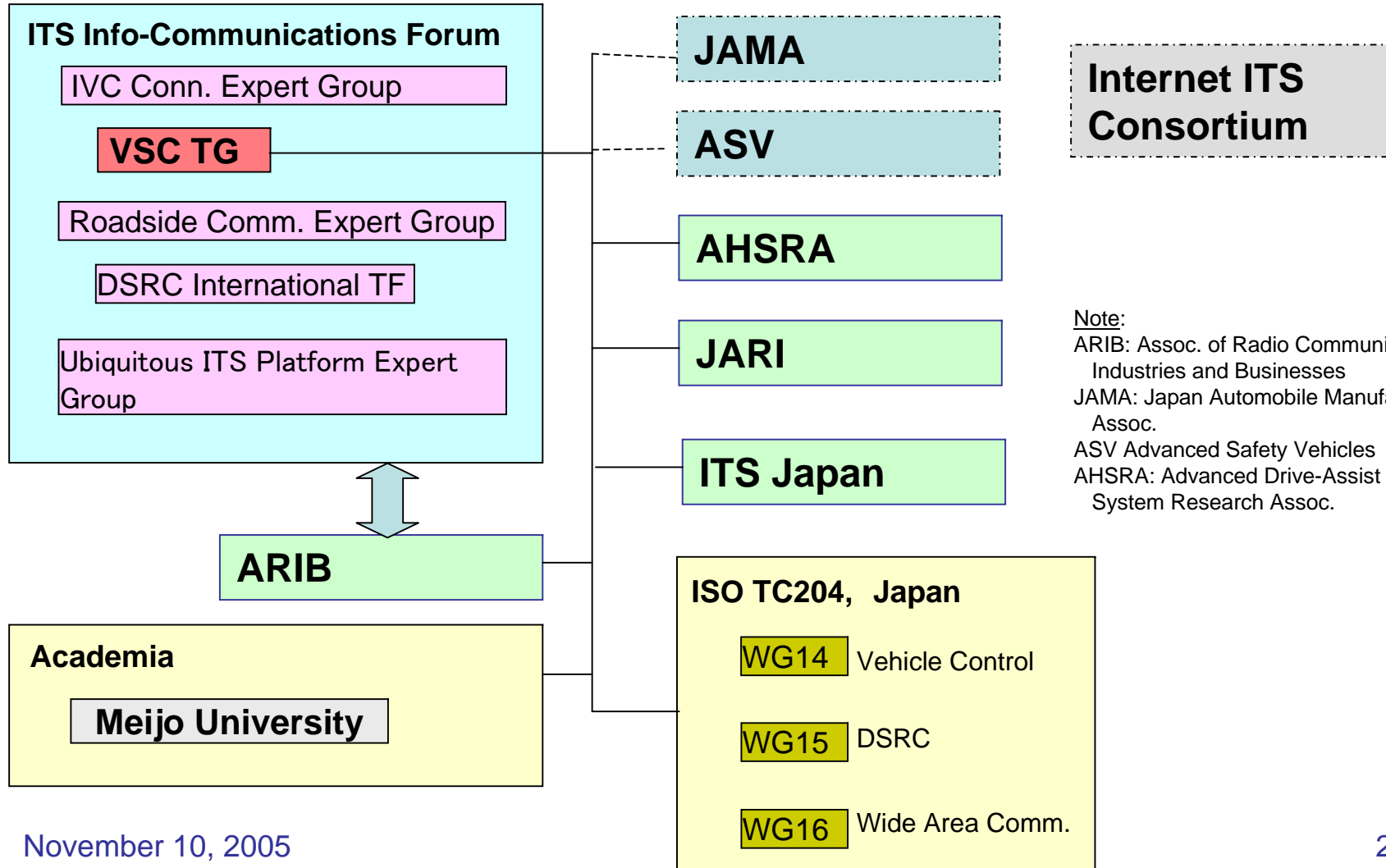




5. VSC



VSC Related organizations - Japan





6. Conclusion

1. Existing ITS Wireless Communications:

DSRC at 5.8GHz

ETC to Multiple Applications

Vehicle Safety

2. Future ITS Wireless Communications:

(1)DSRC/WAVE at 5.9GHz

(2)Integrated Millimeter-wave ITS Communications

(3)Software Defined Radio

(4) Others