

## ITS radiocommunications in Japan

700MHz band ITS and 79GHz band short-range high-resolution radar

May 15, 2012

Tokyo

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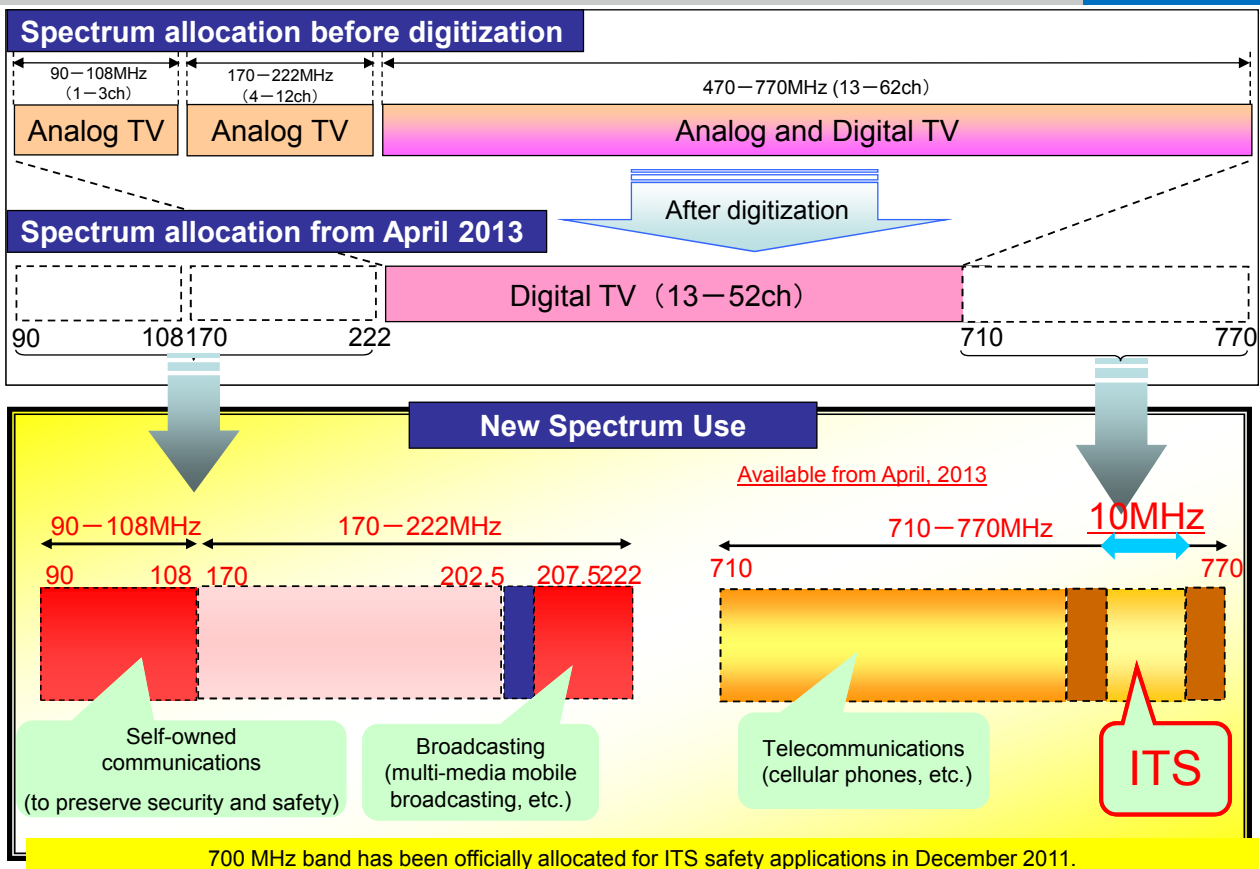
Chair, ITU-R SG5 WP5A WG5 SWG2-ITS

Chair, TG-ITS, APT Wireless Forum

Chair, DSRC International WG and Vice Chair, VSC TG, Vehicle Communications Systems EG,

ITS Info-Communications Forum, Japan

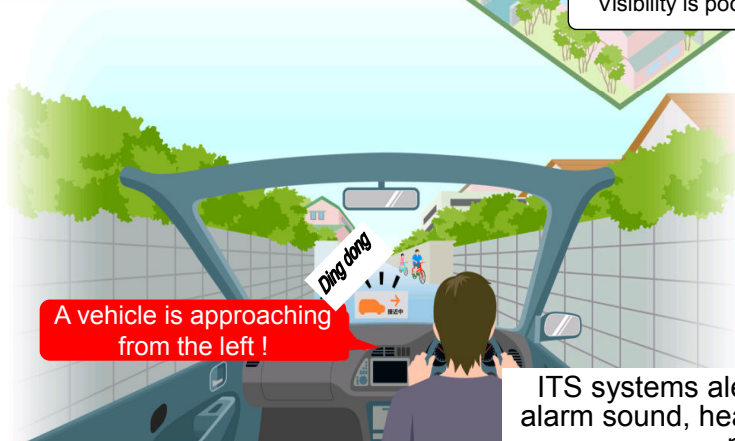
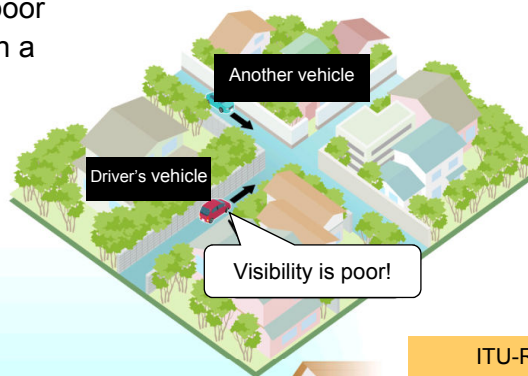
## Spectrum Use After “Digital Dividend”



# 700 MHz ITS System

A collision at an intersection with poor forward visibility, such as a road in a residential area.

Visibility is poor due to trees, walls, or other obstructions.



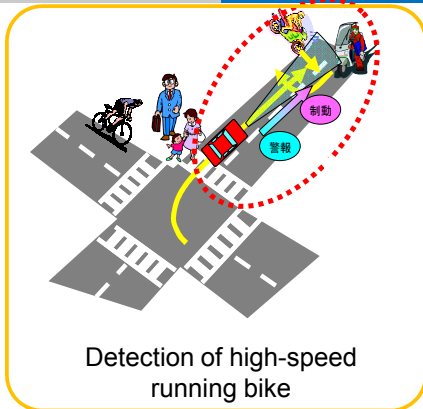
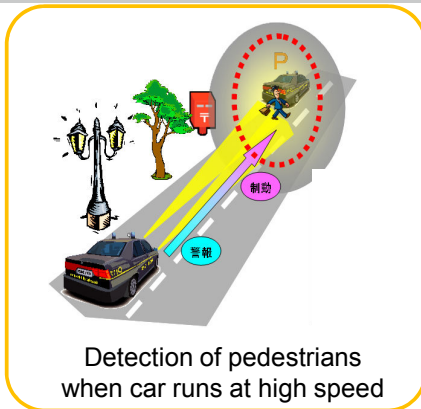
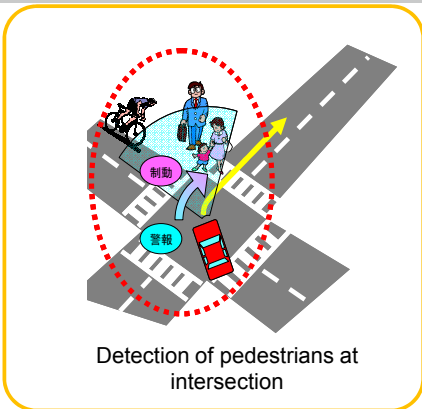
ITS systems alert the driver through an alarm sound, heads-up display, and voice message.

ITU-R Report M.2228  
"Advanced ITS Radiocommunication"

ARIB STD-T109  
"700 MHz band ITS System"

Many traffic accidents happen at intersections in Japan. 700 MHz ITS system is to be used for collision avoidance at intersections.

# 79GHz High-Resolution Radar



## ◆ Longer Distance, Higher Resolution

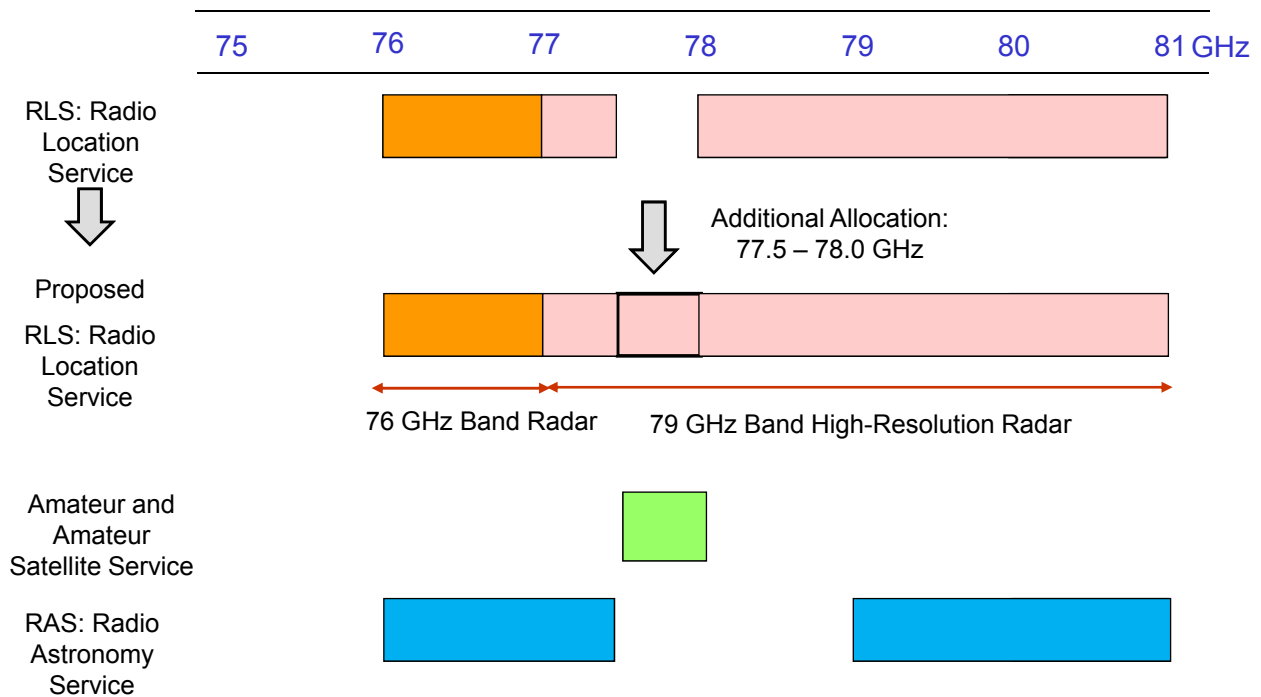
79GHz radar can detect/identify multiple obstacles in a closer & further range.

### 【Radar Standards in Japan】

Type of Radar	Frequency	Bandwidth (Max)	Output Power	Antenna Gain	Resolution	Measurement Distance	Operation Permitted
UWB	22-29 GHz	4750 MHz	-41.3 dBm/MHz	-	20cm	30 m	22 - 24.25 GHz: Until 2016
76 GHz	76-77 GHz	500 MHz	10 mW	40 dBi	1 - 2m	200 m	No time limit
79 GHz	[77-81] GHz	4 GHz	10mW	35dBi	20cm	70 m	No time limit

\* TBD

79GHz High-Resolution Radar is expected in order to detect small objects. MIC makes effort to introduction of it.



## WRC-15 Agenda Item 1.18



Source: WRC-12 Home page

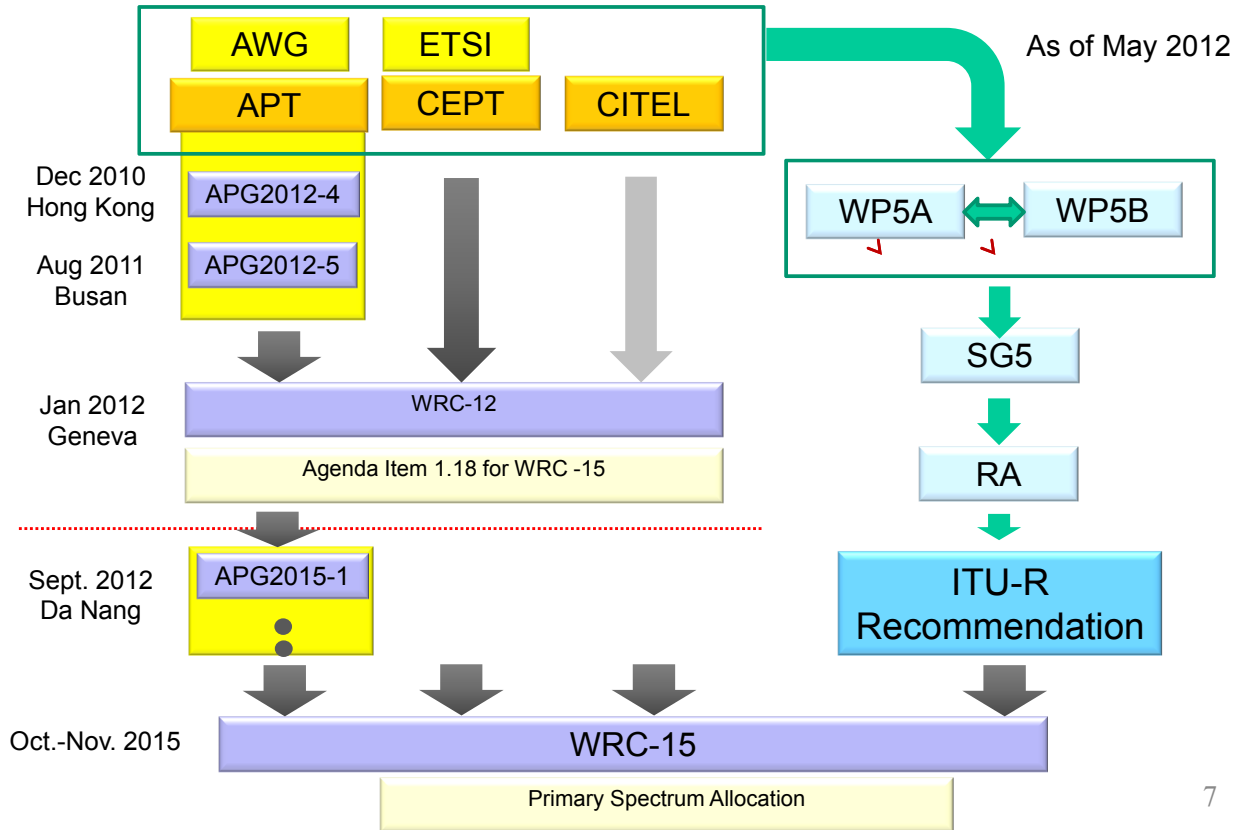
23 January – 17 February 2012  
ITU (Geneva)

175 countries  
about 3,000 attendees

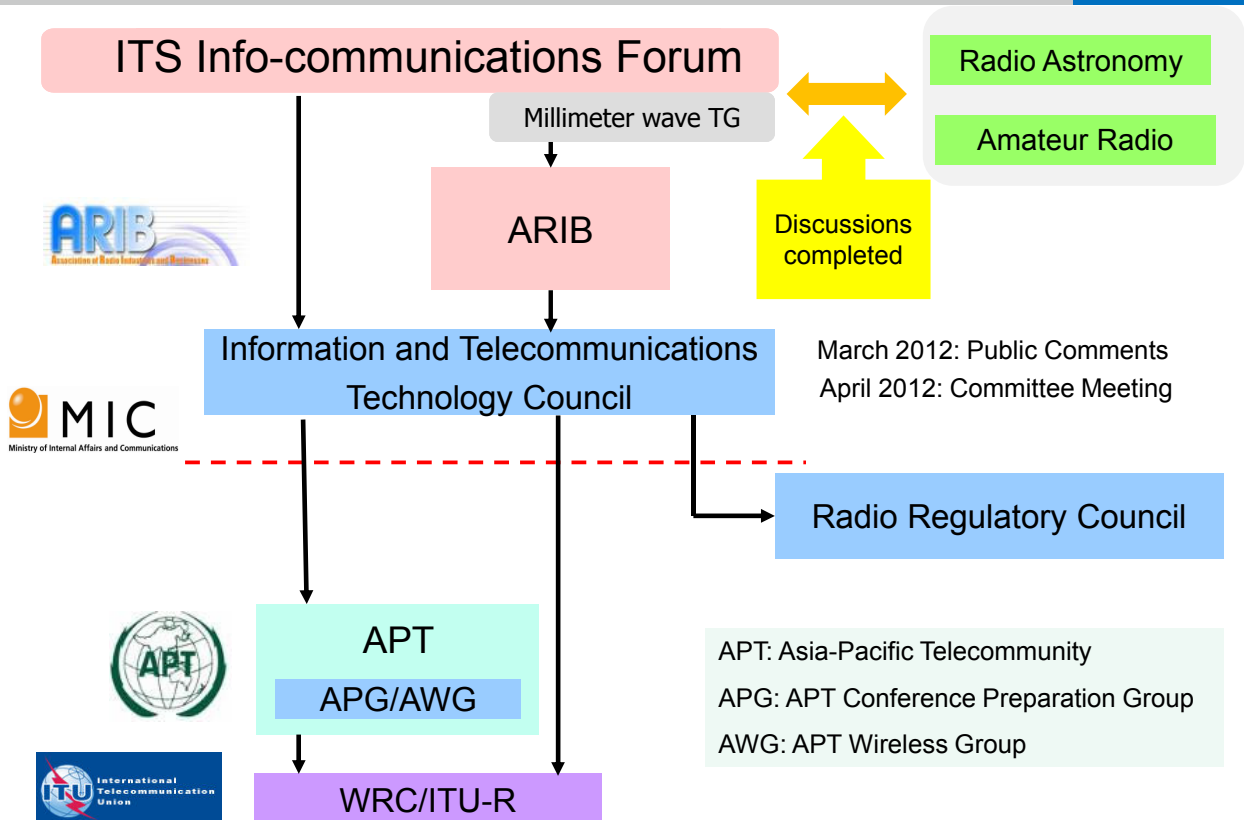
### Agenda for the 2015 World Radiocommunication Conference

1.18 to consider a primary allocation to the radiolocation service in the 77.5-78.0 GHz frequency band for automotive applications in accordance with Resolution **[RLS-78 GHz] (WRC-12)**;

# 79 GHz High-Resolution Radar



# Japan: 79GHz High-Resolution Radar





Achieving Greater Road Safety  
with Intelligent Vehicle  
Telecommunication & Frequency Technology  
for Current and Future in Japan and in Europe

April 5, 2012

Organize by TAIA



## CSA 79 GHz - First Plenary Meeting



May 10, 2012  
Boras, Sweden

25 attendees  
From EU countries, Japan, US,  
Korea, Australia

Source: CSA 79GHz brochure

EC funded Project (7<sup>th</sup> July 2011- June 2014)

- Promote 79GHz high-resolution radar internationally.
- Same objectives with Japan and US.
- Cooperate in ITU-R SG5 and WRC-15.

1. Global harmonization of standards including spectrum allocation (77 – 81 GHz)
2. Early deployment for reducing fatalities

**Automotive industries and equipment manufacturers  
in EU and Japan**

definitely need to work

in collaboration with each other on

**79 GHz band short-range high-resolution radar**