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Topics



Frequency Resource Development Symposium 2018

"Frequency Resource Development Symposium 2018" on the theme of "New effective use of radio waves to open up the future of Mobility" was held in Tokyo on 6 July 2018. The event was co-organized by the Association of Radio Industries and Businesses (ARIB) and the National Institute of Information and Communications Technology (NICT), supported by the Ministry of Internal Affairs and Communications (MIC).

Toward super-smart society expected in 2020-2030, effective utilization of new frequency bands and conventional radio communication systems is becoming the important issues. At the symposium, presentations were delivered by the specialists from government,

industry and academia, focusing on the latest radio utilization technologies for land, marine and air, from the viewpoint of mobility.

The program was as follows.

1. Trend in recent radio policy:

Mr. Masatoshi Nozaki, Director of Radio Policy Division, Telecommunications Bureau, MIC

2. Mobility at 2020s opened up by new utilization of radio wave:

Prof. Takeshi Hattori, Sophia University

3. Future railways realized by utilization of millimeter wave band:

Mr. Makio Kawamoto, Mitsubishi Electric Corporation

4. A new role of satellite at the era of mobility:

Mr. Kenji Inamura, SKY Perfect JSAT Corporation

5. Toward realization of marine broadband communications:

Prof. Ruri Shoji, Tokyo University of Marine Science and Technology

6. New utilization technologies of radio wave supporting the safe operation of drone at non-line of sight:

Mr. Ryu Miura, National Institute of Information and Communication Technology (NICT)



Frequency Resources Development symposium 2018

The 3rd Workshop for Connected Vehicles using LTE / 5G in Tokyo

The 3rd Workshop for Connected Vehicles using LTE / 5G was held on 20 August 2018. Following the 2nd Workshop held in March 2018, 3GPP standardization status related to LTE / 5G V2X was updated, the newest trends on the field trials and state of activities were lectured by each expert with the aim of understanding the situation, and the idea, opinions, and requests regarding main issues and how to proceed in the future were shared.

1. Workshop name: The third Workshop for Connected Vehicles using LTE / 5G
2. Date and Time: 20 August (Monday) 2 pm to 5 pm
3. Location: ARIB (Tokyo, Japan)
4. Organizers:
 - Jointly organized by
 - LTE V2X Support Ad-Hoc, Mobile Partnership Subcommittee, Advanced Wireless Communications Study Committee, ARIB
 - 5G Connected-Vehicle Ad-Hoc Committee, 5GMF
 - Cellular System Task Group, Advanced ITS Info-communication Systems Committee, ITS Info-communications Forum
5. Participants: About 150
6. Event Overview:

Following the opening remarks of Mr. Masaharu Hamaguchi, Vice Chairman of the ITS Info-communications Forum's Advanced ITS Info-communication Systems Committee, greeting was given from Mr. Gaku Nakazato, Director of Mobile Communications Division, MIC (Ministry of Internal Affairs and Communications). With the explanation and proceedings by Mr. Takehiro Nakamura, leader of the 5GMF's 5G Connected Vehicle Ad Hoc Committee, the following lectures were given.

6.1. Latest Trends in LTE/5G-V2X standardization discussions at 3GPP

Mr. Satoshi Nagata, Leader of ARIB's Mobile Partnership Subcommittee, LTE V2X (Vehicle to everything) Ad hoc, introduced the Phase1 (Release-14 LTE) use case of Cellular V2X, Phase2 (Release-15 LTE) based on the standardization progress of 5G NR (New Radio), discussion about NR V2X standardization toward Phase3 (Release-16 NR), and the trend of standardization of element technologies related to LTE/NR V2X such as terminal-to-terminal communication, multicast, low-latency, positioning and mobility.

6.2. Trials aiming at Connected Car at KDDI

Mr. Noriaki Nakayama, KDDI Technical Planning Division Connected Promotion Office introduced the details of the trials of broadcast distribution. Broadcast distribution of information from out-of-area or non-line of sight which would not be available in autonomous systems or V2V communication, broadcast distribution of useful information for multiple vehicles in the same area, delivery of LTE base station position information as reinforcement of GPS positioning, etc. have been conducted in Toyokoro-cho, Hokkaido, and its trial scenery and future developments plan etc. were presented.

6.3. 5G V2X Trial (Softbank)

Mr. Hitoshi Yoshino, Softbank Advanced Technology Development Division, explained about the trial of 5G applications on track platooning which is one of the 5G comprehensive trials (Group V) led by MIC. For following two use cases: 1) vehicle control and video surveillance surrounding following vehicle, 2) remote monitoring / remote operation of the vehicle, field trials were carried out using V2N2V, V2V, V2N. The obtained V2N round-trip transmission delay, the performance evaluation, and images comparing 5G and 4G LTE in terms of delay were reported.

6.4. LTE5G V2X Trial (NTT DOCOMO)

Mr. Akio Iwamura, 5G Innovation Promotion Office, explained about LTE / 5G trials conducted by NTT DOCOMO. For the following four models: (1) Cellular V2X trial (by 6 companies, 2018.1-), (2) Realization of delay of less than end-to-end 100ms in V2N application trial (LTE), (3) High-speed mobility experiments at Fuji Speedway and 5G wireless communication experiment moving at 300 km/h, and (4) 5G trial at around Tokyo Water Front City and Tokyo Sky Tree (partner collaboration, 2017.5 -) etc. various trials have been conducted.

Following the lectures, Mr. Takahiro Nakamura gave suggestions on how to proceed with major issues. It was agreed that the workshop would be held in next December and March in order to compile the discussion of this workshop within the fiscal year, and that materials would be drafted by cellular system TG for December.

About 150 people participated in the workshop. After each presentation, the participants asked many questions, and gave many comments on the important issues and the way in which the Workshop would be carried out.



Workshop Participants Listening to a Presentation, and Mr. Nakamura

The 2nd oneM2M Tutorial Seminar in Tokyo

oneM2M is an only international open and vendor-independent standard that defines indispensable functions for providing IoT services in one set, and that realizes a common service platform. Tutorial Seminar, where oneM2M application development was instructed on a step by step basis, and commercially deployed platform and business application examples were introduced, was held on 31 August 2018, co-organized by ARIB and TTC.

1. Title of the Seminar: oneM2M Tutorial for IoT Business Developer
2. Date and Time: 31 August (Fri) 2018, 2:00 pm to 5:30 pm
3. Location: TTC Conference Room (Tokyo, Japan)
4. Organizers: Jointly organized by TTC and ARIB
5. Participants: About 100
6. Program:
 - (1) Opening Remarks
Mr. Tetsuya Mimura (Moderator), NTT DOCOMO, INC.
 - (2) oneM2M: Open platform that enable IoT / Smart City be realized
Mr. Kenichi Yamamoto, KDDI CORPORATION
 - Description of each country's efforts to realize IoT / Smart City using oneM2M, explanation of automated driving project in Europe, interworking as an upper service layer of 3GPP V2X specification, introduction of one M2M to Edge / Fog computing technology
 - (3) Introduction of IoT platform provided by SoftBank
Mr. Hitoshi Kikuchi, Mr. Kohei Nakamura, SoftBank Corp.
 - Application example of oneM2M platform to actual service, and observation from service providing side for future development etc.
 - (4) Application development Tutorial on oneM2M
Mr. Nobuhiro Okui, KDDI Research, Inc.
Mr. Michiyoshi Sato, TOKYO SYSTEM HOUSE Co., Ltd.
 - Provision of useful information for developers by presenting step-by-step explanations and key material on important points of oneM2M application, through collecting and analyzing heart rate data from wearable devices as an example
 - (5) Introduction of oneM2M interoperability test event “Interop”
Ms. Kei Harada, NTT CORPORATION
 - Introduction of Interop event for realizing end-to-end interoperability and progress in development of test specification
 - (6) Closing Remarks
Mr. Ikuo Yamazaki, NTT CORPORATION
 - (7) Consulting about IoT business using oneM2M (After closing of the sessions)



The seminar



Step-by-step explanations of application development
through data collection from wearable device

SET EXPO 2018 in Sao Paulo

The SET EXP 2018, the largest conference and exhibition of broadcasting in Latin America, was held by SET (Sociedade Brasileira de Engenharia de Televisão) from 27 to 30 August 2018 at the Expo Center Norte in Sao Paulo, Brazil, where seminars, sessions, meetings and exhibition of broadcast-related engineering and technology were carried out.

Mr. K. Watanabe, Vice Minister for Policy Coordination of the Ministry of Internal Affairs and Communications (MIC), expressed his greetings as one of the honorable speakers at the opening ceremony. The VIP tour, following the opening ceremony, was headed by Mr. Gilberto Kassab, Minister for Science, Technology, Innovation and Communications, including the visit to the Japan Pavilion arranged by MIC, where seven Japanese companies / groups exhibited: ARIB / DiBEG, NEC, TBS / Hitachi Kokusai Electric, Kansai TV / NEC, NTT Data / Everis, Pixela and Weather News. Some Japanese companies such as Sony, Panasonic, Hitachi Kokusai, etc. had their own exhibition booths.

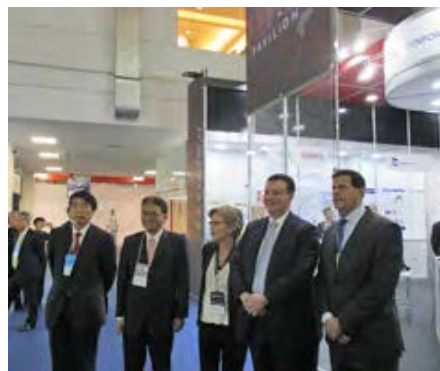
At the Japan Pavilion ARIB / DiBEG exhibited panels showing its various international activities on ISDB-T promotion, and also demonstrated EWBS (Emergency Warning

Broadcast System) utilizing signage that notifies only the emergency message out of the EWBS signal, in a way that people can easily recognize emergency situation at public places such as bus terminals, train stations, airport terminals, etc.

Also in the afternoon of the first day of Expo at Japan Pavilion, the "Kagami-Biraki" Ceremony was performed to celebrate the opening, with the participation of Ms. Liliana Nakonechnyj, President of SET, Mr. Kimura, Director for Digital Broadcasting Technology Division of MIC and Dr. Sugawara, Chairman of DiBEG.



Opening Ceremony



Minister Kassab visiting Japan Pavilion



ARIB/DiBEG Exhibit Area at the Japan Pavilion



"Kagami-Biraki" Ceremony

At one of the conference sessions, Mr. Kimura who participated in it together with the representatives from Kansai TV, TBS and Hitachi Kokusai Electric, made a presentation of the next-generation digital terrestrial broadcasting technologies.

The 6th meeting of the ITU-R TG5/1 in Geneva

The 6th (the last) meeting of the ITU-R TG5/1 was held.

TG 5/1 is responsible for the development of draft CPM text about WRC-19 Agenda item 1.13 (Addition of mobile service in the 24.25-86 GHz band for future IMT development), and studies for frequency sharing between radiosystems is conducted by this group.

1. Outline of the Meeting

Schedule: From 20 to 29 August 2018

Venue: ITU headquarter (Geneva, Switzerland)

Participants:

About 150 people from each country's Administration, Operator, Vendor, etc.

As Japanese delegation headed by Mr. Arimura of MIC, 9 person participated.

Mr. Nishioka and Mr. Kato participated from ARIB.

2. Main results

(1) Frequency Sharing Study

- Regarding the 26GHz (24.25 - 27.5GHz) band, although it was roughly concluded to be possible to share with frequency satellite service (FSS), the condition on which FSS would be under interference was pointed out. In addition, the result that unwanted emission of the IMT system should be reduced further than the value currently assumed in order to protect the Earth Exploration Satellite Service (EESS(passive)), was reported.

(2) Drafting of CPM Text

- For the 32GHz band, it was concluded that it was difficult to share with Radio Navigation Service (RNS) and the band would not to be identified for IMT. For sharing with other systems, no agreement was reached although discussion had been held.
- Regarding the 26GHz band, revision of unwanted emission for EESS(passive) protection and the frequency sharing conditions (Restriction on transmission power, antenna elevation, and equivalent power flux density, etc.) were discussed. As a result, options for CPM19-2 were made clear.

3. Future Plan

CPM texts drafted at this meeting are to be finalized at CPM19-2 which will be held in Geneva, Switzerland from 18 to 28 February 2019.



The 6th meeting of the ITU-R TG5/1

The 53rd CJK IMT Working Group Meeting in Jeju

CJK IMT Working Group Meeting is aiming to exchange information and views about the activities of international IMT standardizations in ITU-R, APT, 3GPP, etc. among the members of SDOs in China, Japan and Korea.

The 53rd CJK IMT Working Group Meeting was held.

1. Outline of the Meeting

Schedule: From 5 to 6 September 2018

Venue: Ramada Plaza Jeju Hotel (Jeju, Korea)

Participants: ARIB (Japan) 9, CCSA (China) 9, TTA (Korea) 12

2. Main Results

- (1) The results of the 6th ITU-R SG5 TG5/1 held in August, and the 30th ITU-R SG5 WP5D held in June were confirmed. And also, report of each SDO's activities and the discussion at 3GPP were shared.
- (2) Information on IMT-2020 radio interface was shared regarding the proposal to ITU-R from each country, the activity progress of the external evaluation group, and the preparation for the 24th APT Wireless Group (AWG-24).
- (3) Information was shared on the preparation progress of each country for the 31st ITU-R WP5D meeting to be held from 9 October. As a result, it was agreed that four joint contribution candidates would be prepared.
- (4) Based on the TTA's proposal, discussion about preparing a report on V2X by three CJK countries was held, but consensus has not been reached on purpose of creation, outcome, etc. and the discussion was agreed to be continued in the future.

3. Future Plan

The next CJK IMT Working Group Meeting will be scheduled on 17 and 18 January 2019 in Guangzhou, China.



The 53rd CJK IMT meeting

The 14th Joint IMO / ITU Experts Group on Maritime Radiocommunication Matters

The 14th Joint IMO / ITU Experts Group on Maritime Radiocommunication Matters was held. The expert meeting is a meeting to discuss matters that need to be coordinated between the IMO and ITU.

1. Outline of the Meeting

Schedule: From 3 to 7 September 2018

Venue:

IMO Headquarter (International
Maritime Organization) (London, UK)

Participants :

23 Countries, including US, UK, China,
Germany, France, Norway, etc.



IMO Headquarter

2. Main Results

The most important issues at the moment are the response to WRC-19, and the revision of recommendation toward realization of "modernization of GMDSS" in the mid 2020's. At this meeting, it was decided that revision of the IMIR's EPIRB performance requirement should be reflected to the revision draft Recommendation ITU-R M.1371-5 on AIS.

The 25th ITS World Congress 2018 Copenhagen

The 25th ITS World Congress 2018 Copenhagen was held.

➤ Overview of the Congress

Date	From 17 to 21 September 2018
Venue	Bella Center (Copenhagen, Denmark)
Theme	“ITS - Quality of Life”
Organizer	ERTICO / EU
Participants	About 10,000
Number of exhibitors	About 400

➤ Exhibitions and Ceremonies

In the Japan Pavilion located in the exhibition hall, the ITS Info-communications Forum and The Fifth Generation Mobile Communications Promotion Forum (5GMF; the first participation) put booths respectively.



Exhibition of ITS Info-communications Forum



Exhibition of 5GMF

At the closing ceremony, after the excellent awards were released, it was announced that the next ITS World Congress would be organized by ITS Singapore on the theme of "Smart Mobility, Empowering Cities" and held from 21 to 25 October 2019 in Singapore.

➤ Sessions related to Japan

Session No.	SIS02
Title	Radio communication technologies for connected vehicles and automated driving
Speaker	<p>Organiser: Yosuke Nishimuro, Ministry of Internal Affairs and Communications (MIC), Japan</p> <p>Moderator: Satoshi Oayama, Association of Radio Industries and Businesses, Japan</p> <p>Speakers: Koji Hara, Ministry of Internal Affairs and Communications, Japan Sergio Buonomo, ITU-R, Switzerland Tomohiro Otani, KDDI Research, Inc., Japan John Kenney, Toyota Info-Communication Center, U.S.A. Niels Peter Skov Andersen, C2C-CC Communications Consortium, Denmark</p>
Highlights	<p>Representatives from the ITU-R, the governments and the industries of Japan, United States and Europe participated in the session. Possibilities of various harmonization between ITS radio communication standards, such as DSRC, LTE / 5G, and V2X were discussed for WRC-19 (Agenda Item 1.12).</p> <p>Mr. Hara of MIC gave a presentation on the strategy for ITS in Japan.</p>
Session No.	SIS17
Title	Evolution from current automotive connectivity and ITS deployments to 5G and 5G C-V2X
Speaker	<p>Organiser: Tim Leinmueller, DENSO, Germany</p> <p>Moderator: Roger Berg, DENSO International America, Inc., USA</p> <p>Speakers: Johannes Springer, Deutsche Telekom AG, Germany Takehiro Nakamura, NTT DOCOMO, Japan Julius Muller, AT&T, United States Stefano Sorrentino, Ericsson, Sweden Jovan Zagajac, Ford, United States James Misener, Qualcomm, United States Joerg Plechinger, Director, Audi, Germany</p>
Highlights	<p>From Japan, NTT DoCoMo's executive officer Mr. Nakamura gave a lecture on 5G and Cellular-V2X in Japan, expressing the importance of collaboration with different industries, especially the automobile industry.</p>
Session No.	ES03
Title	Essentials for developing a Smart City
Speaker	<p>Moderator: Kirk Steudle, Director, Michigan Department of Transportation, USA</p> <p>Speakers: Russ Shields, Chair, Ygomi LLC, USA Gaku Nakazato, Director, Ministry of Internal Affairs and Communications, Japan Sharelynn Moore, Senior Vice President, Networked Solutions, Itron, United States Leen Balcaen, Senior Director of Cities, HERE Technologies, German</p>
Highlights	<p>An important decision about realizing a smart city where government and the private sector cooperate and share a vision and build urban infrastructure aiming at improving the quality of life, was discussed in the session.</p> <p>Mr. Nakazato of MIC gave a presentation on the vision of Smart City which is expressed with the key word "Compact" and "Network", after mentioning the impending crisis such as declining birthrate and the aging population in Japan.</p>

ARIB - DVB Regular Meeting

The annual meeting between DVB (Digital Video Broadcasting), the standardization organization for digital television in Europe, and ARIB was held at the opportunity of the IBC (International Broadcasting Convention), the largest exhibition of broadcasting equipment in Europe (from 13 to 18 September 2018). The meeting has been held annually, based on the agreement of exchanging information at “the regular meeting between Japan and EC” in 1994. The information about activities and liaison has been shared, and views on the hot topics have been exchanged at the meetings.

1. Outline of the meeting

Schedule	17 September 2018
Venue	RAI Exhibition Center (Amsterdam, Netherlands)
Participants	(DVB) Mr. Peter MacAvock (DVB Chairman, DVB Project) Mr. Peter Siebert (Head of Technology, DVB Project) (ARIB) Mr. Ryoichi Nakai (Broadcasting Group, ARIB), Mr. Masakazu Iwaki (NHK), Mr. Takashi Katoh (NHK), Mr. Tsuyoshi Nakatogawa (NHK)

2. Main results

(1) Report of the latest activities

<Report from ARIB>

- Status of 4K / 8K broadcasting in Japan
- Research topics of terrestrial 4K / 8K broadcasting in Japan
- Activity of ARIB over the past year

<Report from DVB>

- Viewer's trend in Europe
- Activities since the previous meeting
- Current issues

(2) Liaison

- ARIB and DVB reviewed the contact person, and confirmed them to be unchanged.



DVB exhibition at IBC

The 24th Meeting of APT Wireless Group (AWG-24) in Bangkok

The 24th Meeting of APT Wireless Group (AWG-24) was held.

1. About the APT Wireless Group (AWG)

APT (Asia-Pacific Telecommunity) Wireless Group is a meeting to study the harmonization and standardization of the frequency and technical matters of wireless communication systems in the Asia-Pacific region for the purpose of advancement, dissemination and promotion of wireless communication systems. It has been held usually about twice a year, and the experts of the wireless technology of each country in this region join the meeting. The group is chaired by Dr. Kohei Sato (ARIB), with two vice chair Mr. K. Zhu (China) and LV Tuan (Vietnam) .

2. Outline of the Meeting

Schedule	From 17 to 21 September 2018
Venue	IMPACT Arena, Exhibition and Convention Center (Bangkok, Thailand)
Participants	186 people from administrations, private organizations and international organizations in the Asia-Pacific region 37 people as the Japanese delegation headed by Mr. Yasuda of MIC



AWG-24 Meeting

3. Main results

In the APT Wireless Group, 3 working groups (WG) (frequency, technology and service / application) had been set. In each WG, sub working group or task group had been established for each issue, and deliberation was carried out.

The main results of the meeting were as follows.

- (1) IMT: The fifth generation mobile communication systems, etc.
 - Draft APT report that includes replies to survey of technical requirement from each country was completed.
- (2) Intelligent Transport Systems (ITS)
 - Study related to Cellular-V2X has newly begun. Report is planned to be completed in the Spring 2021.
- (3) Railway wireless system
 - APT report on RSTT (Railway radiocommunication System between Train and Trackside) regarding its system development and test, will be completed at the next AWG meeting.
- (4) IoT
 - Research report regarding the frequency and systems on which IoT is utilized in each country was completed.

4. Next meeting schedule

The next AWG-25 meeting is planned to be held in May or June 2019, and Chairman and Vice Chairman will be elected for the next study term.



AWG-24 Participants

1. Newly established Standards at Standard Assembly on 26 July 2018

Data Structure of RTP Datagram in Essence Independent and Single Stream for IP Interface in Production Systems (STD-B73 Ver.1.0)

This standard specifies the data structure of the IP interface mainly in the production of the 4K / 8K program, in order to meet the need to make the data transmission interface between the production equipment in the studio changed into IP.

2. Revised or abolished Standards at Standard Assembly on 26 July 2018

(1) Telecommunications field

STD Number	Standard Name	Version
STD-T63	IMT-2000 DS-CDMA and TDD-CDMA System	Ver.13.30
STD-T71	Broadband Mobile Access Communication System (CSMA)	Ver.6.2
STD-T89	950MHz-Band RFID Equipment for Premises Radio Station	abolished
STD-T90	950MHz-Band RFID Equipment for Specified Low Power Radio Station	abolished
STD-T96	950 MHz-Band Telemeter, Telecontrol and Data Transmission Radio Equipment for Specified Low Power Radio Station	abolished
STD-T99	150 MHz-Band Person/Animal Detection Report System Equipment for Specified Low-Power Radio Station	Ver.4.0
STD-T100	950MHz-Band RFID Equipment for Convenience Radio Station	abolished
STD-T104	LTE-Advanced System	Ver.5.30
STD-T118	OFDMA/TDMA TDD for digital cordless telephone (sXGP)	Ver.1.1

(2) Broadcasting field

STD Number	Standard Name	Version
STD-B32	VIDEO CODING, AUDIO CODING, AND MULTIPLEXING SPECIFICATIONS FOR DIGITAL BROADCASTING	Ver.3.11