

# Newsletter **ARIB** **SEASON**



No.0016

*Event*

## **CEATEC JAPAN 2017**

CEATEC\* JAPAN 2017, one of the most famous exhibitions of Advanced Technologies in Japan, was held at Makuhari Messe, Chiba prefecture from 3 to 6 October 2017. ARIB set up a booth in the “COMMUNITY Area” and exhibited the ARIB activities.

( CEATEC\* : Combined Exhibition of Advanced Technologies )

The theme of the 2017 year's CEATEC was "Connecting Society, Creating the Future", and an event planning and schedule setting had been carried out as the CPS / IoT Exhibition as last year, in consideration of strong business exchange (Business Link) among the domestic and foreign executives, government officials and key engineers. Total of 667 companies and organizations took part in the CEATEC.

In the ARIB booth, following contents were exhibited and introduced.

- (1) Overview of ARIB
- (2) ARIB's research, development and international cooperation activities
- (3) Technologies and systems which won the 28th Radio Achievement Award



**ARIB exhibition in CEATEC JAPAN 2017**



**Exhibition of the 28th Radio Achievement Award winning technologies**

In addition, the questionnaires were conducted for about 600 people who visited the ARIB booth to investigate the trend of interest. And also the activities of ARIB and benefits of membership are explained to the visitors from non-ARIB member companies or organizations, etc.

### The Workshop on the Fifth Generation Mobile Communications Systems (5G) - 2017

The 4th annual workshop to discuss the advancement of R&D towards the realization of the 5th generation mobile communications system (5G) : “The Workshop on the Fifth Generation Mobile Communications Systems (5G) - 2017” was held on 4 October as a program of CEATEC JAPAN 2017 Conference.






Lectures on the project goal and the test environment of the trial promoted by the MIC (Ministry of Internal Affairs and Communications) aiming at creating a new market by introducing 5G systems, were delivered.

In the panel discussion, academic experts and guests from the industries utilizing mobile communications joined, and active discussions were held on the issues and expectations in the trial, and on the future prospects.

Organizer	MIC (Ministry of Internal Affairs and Communications)
Co-organizer	5GMF (Fifth Generation Mobile Communications Promotion Forum)
Date	4 October 2017, 14:00~17:30
Location	Makuhari Messe International Convention Center (Chiba Prefecture, Japan)
Number of Participants	About 700



The Workshop Hall

<p><b>Opening Remarks</b>  <b><u>Mr. Shigeki Suzuki</u></b>  Vice-Minister for Policy Coordination, MIC</p>	
<p><b>Keynote Address</b>  <b><u>Prof. Susumu Yoshida</u></b>  Chairman, 5G workshop organizing committee, Chairman, 5GMF</p>	
<p><b>Session 1 : Activities towards the realization of 5G in 2020</b></p>	
<p><b><u>Mr. Gaku Nakazato</u></b> (Director of the New-Generation Mobile Communications Office, MIC)  <b>Title :</b> 5G Initiatives in Japan  <b>Summary :</b> Overview of activities by the MIC working towards to early realization of 5G, including the background and basic concept of 5G as well as information on the 5G integrated trials to support the early realization of 5G, including information on the 5G integrated trials.</p>	
<p><b>Session 2 : 5G Trial Promotion Group (TPG) current state and activities towards Japan-Korean cooperation</b></p>	
<p><b><u>Dr. Yukihiro Okamura</u></b> (5GMF 5G TPG Leader/NTT DOCOMO)  <b>Title :</b> Activity Status of 5G Trial Promotion Group in 5GMF  <b>Summary :</b> A report on the activities of the 5GMF TPG and an overview of the MIC trial and collaborative activities with Korea.</p>	
<p><b><u>Prof. H.W. LEE</u></b> (Chair, 5G Forum Global Strategy Committee)  <b>Title :</b> 5G Trial &amp; Collaboration in Korea  <b>Summary :</b> Overview of 5G trials and future plans in Korea, collaborations in Korea with other countries, comparing the characteristics of the ITU classification (eMBB, mMTC, uLLC) with the user-centric index (Immersive, Intelligent, Omnipresent, Autonomous, Public) used in Korea.</p>	

### Session 3 : Outline of the 5G Trial Project

**Dr. Yukihiro Okamura** (NTT DOCOMO)

**Title :** Trial Overview of Group I & II in MIC 5G Field Trial Project

**Summary :** Introduced trials by NTT DOCOMO, NTT Communications, and others, to realize ultra-high speed communication in densely crowded areas or while moving at high speeds.



**Mr. Akira Matsunaga** (KDDI)

**Title :** 5G Field Trials by MIC (GIII, GIV)

**Summary :** Introduced trials by KDDI, ATR, and others, to realize ultra-high speed communications with ultra-low latency in large urban centers and surrounding rural areas as well as indoors.



**Dr. Hitoshi Yoshino** (Softbank)

**Title :** Activity overview of 5G Field Trial in Japan

**Summary :** Introduced trials by Softbank, NICT, and others, to realize multiple, simultaneous connections while indoors and to realize ultra-low latency while moving at high speeds.



### Panel Discussion

Panelists included presenters from sessions one and two and those working on the 5G trials, as well as representatives from firms who will utilize 5G networks, who exchanged opinions and ideas on 5G, including the challenges and expectations concerning the trial towards the realization of 5G.

**Theme:** Current Trends and Future Outlook of Realizing 5G Services through the lens of the Integrated Trial

**Moderator:** Prof. Seiichi Sampei (5GMF Technical Committee Chairman/Osaka University)

**Panelists:** Mr. Hiroshi Furuya (Obayashi Corp.), Prof. H.W. Lee (5G Forum, Korea), Mr. Akira Matsunaga (KDDI), Mr. Takehiro Nakamura (NTT DOCOMO), Mr. Keiichiro Shimada (Sony), Dr. Hitoshi Yoshino (Softbank).

**Presentations:**

- Mr. Furuya: ICT use in the construction industry (remote control/monitoring), expectations for the utilization of communications with 5G.
- Mr. Shimada: Progress in image technology (beyond the capabilities of the human eye, such as ISO 400,000, 4K/8K to 32K/64K, Dynamic range 120dB)

**Topics Discussed in the Panel Discussion:**

- Differences between 5G and previous generations ( 5G will have in addition to high speeds, low latency, multiple connections, collaboration with vertical businesses, machine to machine communications)
- Current challenges and expectations of 5G's use fields (costs, area, use of systems from exclusive to general, developments from users' perspective)
- International cooperation (standards, vertical cooperation, international expansion, construction of a common, global infrastructure for IoT)
- Questions from the audience (opening a help desk to answer questions about 5G, latency requirements)





**Prof. Seiichi Sampei (5GMF)  
Moderator**



**Members of the Panel Discussion**

### **The 11th Japan–Philippines JWG Meeting in Manila**

The governments of Japan and the Philippines have been holding a series of Japan-Philippines Joint Working Group (JWG) meetings in order to study and discuss challenges to the ISDB-T implementation in Philippines; and the 11th JWG Meeting was held on September 23 at the headquarters of National Telecommunications Commission (NTC) in Manila, Philippines. ARIB / DiBEG representatives also participated in the JWG.

While the Philippine side was comprised of the representatives of NTC and a JICA expert, the Japanese delegation consisted of the representatives from Ministry of Internal Affairs and Communications (MIC), Embassy of Japan in the Philippines, a DiBEG expert and a representative from the secretariat.



**The JWG Meeting**

The Philippine side explained the current status of digital TV license applications by broadcasters, latest study results on the introduction of CAS (Conditional Access System), and on the frequency re-allocation for the existing operators in a specific UHF bandwidth to new channels.

The Philippine side also explained that they are studying to set up a "Digital Terrestrial TV Implementation Commission", a sort of task force of legal procedures in which representatives from both public and private sectors get together for smooth transition to digital terrestrial TV, to monitor the TV reception environments, to test TV receivers, and to study rules on TV broadcasting.

On the other hand the Japanese representatives explained the latest status of other ISDB-T adopting countries, introduced MIC's support programs to the Philippines, pointed out some probable technical challenges with the transition to TV digitization, and made suggestion of some of the countermeasures.

Above all they introduced concrete measures to the technical challenges in the receiving environment monitoring, including the monitoring methodologies.



**JWG meeting Participants**

## The 28th ITU-R WP5D Meeting in Munich

The 28th ITU-R WP5D Meeting was held as below.

### 1. Overview of the meeting

Schedule	From 3 to 11, October 2017
Venue	Leonardo Royal Hotel Munich (Munich, Germany)
Participants	About 217 people from 34 countries (43 organizations)
Participants from Japan	17people (including 3 people from ARIB) headed by Mr. Murai (Deputy Director of Land Mobile Communications Division, MIC)



**The 28th ITU-R WP5D Meeting**

## 2. Main results

- (1) “IMT-2020 Workshop” was set, and explanation was given about the minimum requirements, evaluation method, submission procedure, standardization process etc. of IMT-2020 radio interface from WP5D. Questions and answers were presented from 4 groups of 3GPP-5G, ETSI DECT, Korea IMT-2020 and China IMT-2020 as proponents of IMT-2020 radio interfaces, and also from all nine organizations registered as independent evaluation groups. In response to the results of the IMT-2020 workshop, the liaison statement for external organizations regarding the reference on future work plans and cooperation requests was approved at WP 5D plenary.
- (2) The title of the draft new report ITU-R M.[IMT.EXPERIENCE] which brings together the national experiences on the uses of IMT systems, was agreed. And it is decided that discussions on the Scope and beyond would be started at the next meeting.
- (3) Misdescriptions on the evaluation method of the IMT-2020 radio interfaces were corrected, and the draft new Report M.[IMT-2020.EVAL] was adopted as an update of the draft new report at the WP5D plenary. The updated draft new report was submitted to SG5 as a replacement of the draft new report for approval.
- (4) Regarding detailed radio interface Recommendation ITU-R M.2012 3rd revision, revision proposal of recommendation including Hyperlink was completed at this meeting, agreed at the WP5D plenary, and submitted to the SG5 for adoption.
- (5) In consideration of the fact that the number of WP5D meetings is one time less in 2019 than in the regular year, a liaison statement was produced asking for confirmation to external organizations about the revision schedule of fourth revision of ITU-R M.2012. The document is aiming at adoption at SG5 in 2019 and was approved at the WP 5D plenary along with the new IMT-ADV document prescribing the schedule.
- (6) Regarding the draft new ITU-R Recommendation / Report on coexistence of 2.1GHz terrestrial IMT and satellite components, the working documents were updated reflecting the converged proposal of interference review method by Japan.
- (7) For the Recommendation ITU-R M.2101 on modelling of the IMT networks and systems, a reply liaison statement was created for the liaison statement from TG 5/1 seeking clarification of the AAS (Advanced Antenna System) antenna model gain, and was approved at the WP5D plenary.
- (8) Regarding the IMT-2020 coexistence study parameters issued for TG5/1, it was agreed that the work of preparing a draft report would be started since June 2018 as proposed by Japan, which has been described in the chairman's report.
- (9) Regarding the liaison statement to WP1A concerning the unwanted emission regulation based on TRP (Total Radiated Power), WP1C was added to the copy destination and approved at the WP5D plenary.
- (10) The document IMT-2020/VVV which is related to the basic principles of GCS usage proposed by Japan, addition of a new IMT-2020 document IMT-2020/WWW which specifies procedure to revise Recommendation ITU-RM.[IMT-2020.SPEC] were

agreed. And it was agreed that SWG IMT SPECIFICATION will be in charge of those work. These have been stated in the chairman's report.

### 3. Next meeting schedule

The next 29th meeting is scheduled to be held in Korea from 31 January to 7 February 2018.

## 5G-era Smartphone applications Development Trends Workshop in Taipei

Due to better understanding and promoting services and applications utilizing the Fifth Generation Mobile Communications Network (5G), ARIB and TAICS held the workshop in Taipei, Taiwan. The workshop was targeted at individual users, communications firms, and equipment vendors. Participants from Japan included specialists from the Fifth Generation Mobile Communications Promotion Forum (5GMF) and the Ministry of Internal Affairs and Communications (MIC).

### [Background of the Workshop]

The 5GMF Application Committee (Chairperson: Mr. Iwanami) had conducted a user trend survey targeting users of smartphones twice (once a year) in Japan, and conducted survey in Taiwan for the first time in January 2017.

### [Outline of the Workshop]





1. Title: "5G-era Smartphone applications Development Trends Workshop in Taipei"
2. Date: 31 October 2017, 13:30-17:00
3. Location: International Conference Hall,  
Chinese Culture University Arts & Performing Arts, Taipei, Taiwan
4. Organizer: Co-organized by ARIB and TAICS
5. Participants: About 100 (with simultaneous Japanese-Chinese interpretation)
6. Program

### Opening Remarks

- Hao-chu Lin: Senior Specialist, Department of Industrial Technology, Taiwan Ministry of Economic Affairs (left)
- Shigeki Moriyama, Executive Director, ARIB (right)





Session1: Activities for 5G in Japan		
Speaker	Title	Summary
1. Mr. Yasuyuki Kobashi, MIC, Japan 	5G Initiatives in Japan	Abstract of MIC's activities for 5G (background, capability, field trial, etc.)
2. Mr. Gota Iwanami, CEO, Infocity / Chairman, Application Committee, 5GMF 	Activity Status of 5GMF	Activity on 5GMF Application Committee and Report on Future Mobile Market in Japan
3. Mr. Hitoshi Uchida, CEO, IdeaFront 	Mobile usage trend of citizens in Japan and Taiwan	Research analysis on the use case of smartphone
4. Mr. Kanji Ohnishi, SONY / Application Committee, 5GMF 	Broadband IoT with advanced image sensing beyond the human eye	Advanced image sensing technology trend, Application Development towards 5G



The session

<b>Session2: Activities for 5G in Taiwan</b>		
<p>5. Mr. Dong Yang Hsu, Taiwan 5GO, DoIT, MoEA</p> 	<p>Overview of Taiwan 5G Program under MOEA</p>	<p>Taiwan government's activities for 5G (government policy, frequency allocation plan, schedule, etc.)</p>
<p>6. Ms. Meiling Chen, International Economics and Knowledge Center (IEK), Industrial Technology Research Institute (ITRI)</p> 	<p>Opportunities for 5G Mobile Communication</p>	<p>Analysis of mobile business for 5G (global trend of 5G trial, result of user trend survey, prospective services scenario, etc.)</p>
<p>7. Mr. Yuan Kuang Tu, President, Mobile Business Group, Chungwa Telecom</p> 	<p>Overview of new smartphone application in 5G Era</p>	<p>Prospect of future smartphone application for 5G (application and technology, progress of input / output / recognizing technology, wearable device and sensor, etc.)</p>
<p><b>Panel Discussion</b></p> <p>Theme: How will 5G smartphone applications change our daily lives?</p> <p>Moderator: Sheng-Lin Chou (Secretary General, TAICS)</p> <p>Panelists: Yasuyuki Kobashi (MIC), Gota Iwanami (5GMF) Hitoshi Uchida (5GMF), Kanji Ohnishi (5GMF), Meiling Chen (ITRI)</p> <p>Presentation: Kanji Ohnishi "Progress in imaging technology" (beyond the range of the human eye such as ISO 40000, 4k/8k→32k/64k, Dynamic Range 120dB)</p> <p>Panelists answered the following questions from the audience</p> <ul style="list-style-type: none"> <li>- What are advantage of 5G for industry?</li> <li>- What kind of examples does ASP provide on B2B2X model?</li> <li>- Can Taiwanese operators participate in the MIC integrated verification trials?</li> <li>- What are the expected use cases for the utilization of ultra-low latency?</li> </ul>		



**The Panel Discussion**

## The 24th ITS World Congress 2017 Montréal

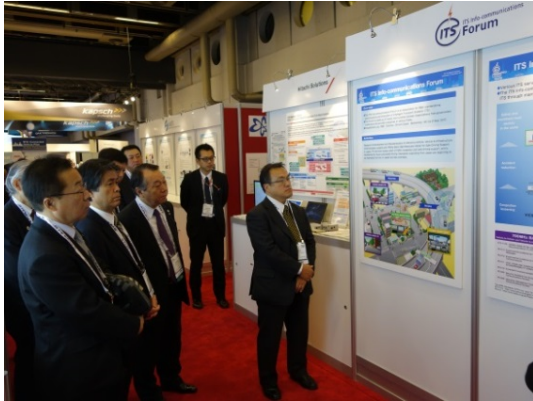
The 24th ITS World Congress was held in Montréal, Canada which had celebrated its 150th national anniversary on 1 July 2017.

### ◆ Overview of the Congress

Date	From 29 October to 2 November 2017
Venue	TLe Palais des congres de Montreal
Theme	“Next Generation Integrated Mobility Driving Smart Cities”
Organizer	ITS America / ITS Canada
Participants	About 8,000
Number of sessions	251 sessions
Number of exhibitors	About 300

LTE V2X was taken up in the SIS 35 session and other sessions, and actively discussed. KDDI had an exhibition booth for the first time as a Japanese telecommunication career in ITS World Congress, highlighting that handover can be achieved under high speed environment.

At Taiwan booth, a safe driving support system for motorcycles compliant with the ARIB STD-T109 standard was exhibited as well as last year and a mechanism to notify the approach of to the intersection using IC tags as a mobile communication unit for motorcycles. It is a cheap implementation mean, and rapid progress has been seen in the past year.



**Representative of Government, Mr. Hasegawa of National Police Agency inspecting the exhibition of ITS Info-communications Forum**



**Japan Pavilion**



**An IC tag for notifying the approach installed on the rear seat of the motorcycle**



**Demonstration video introducing 5G / LTE V2X presented by KDDI**



**Mr. Wada, of New-Generation Mobile Communications Office, MIC presenting at Session SIS87 (Photo on the left), “Radiocommunication Technologies for Cooperative ITS and Automated Driving” by moderator Mr. Oyama of ARIB (Left-hand side of the Photo on the right)**





**Smart City Pavilion which is one of the special-feature exhibition**



**“Passing Globe” ceremony  
(to the next venue, Copenhagen)**

The next 25th ITS World Congress 2018 is scheduled to be held in Copenhagen from 17 to 21 September 2018.

### **Celebration for Mr. Olímpio Franco of SET upon his Radio Achievement Award**

The 28th Ceremony of Radio Achievement Award was held by ARIB on June 15, 2017, where Mr. Olímpio José Franco, Superintendent of Sociedade Brasileira de Engenharia de Televisão (SET) of Brazil, got the Award by the Minister of Internal Affairs and Communications (MIC) for his contribution to the adoption and smooth introduction of Terrestrial Digital Television Broadcasting System (ISDB-T) in Brazil and international dissemination of the system.

While he could not join the award ceremony in June, taking the opportunity that he could come to Japan this time, DiBEG (Digital Broadcasting Engineers Group) planned and hosted a party to congratulate him, in which the prize was handed over to him at the Meiji Kinenkan hall (Tokyo, Japan) on November 14th.

About 60 people participated in the party to celebrate him, from MIC, NHK, private broadcasters, broadcast equipment suppliers, etc. who have been involved not only in the ISDB-T marketing to Brazil but also in the international promotion of ISDB-T.



**The Award Certificate is given to Mr. Franco by Ms. Yamada,  
Director-General of the Information and Communications Bureau of MIC**

### **The 11th Regional BWA Promotion Association Symposium**

Regional BWA (Broadband Wireless Access) Promotion Association held its 11th symposium in Tokyo on 16 November 2017 under the joint sponsorship of ARIB.







In response to the revision of Radio Law in October 2014 in Japan, higher speed, high quality, high function communication service became possible due to advanced technology based on LTE and 20MHz bandwidth allocation. As a result, the operators which introduce advanced radio system or start businesses based on licenses of it have begun to rise, and it seems to increase steadily nationwide.

At the Symposium, more than 80 people participated, and high interest and expectation for regional BWA was seen through intent attendance and active questions and answers.



**The Symposium**

The program of the Symposium was as follows.

	Speaker		Title
		Prof. Yasuhiko Yasuda Advisor of Regional BWA Promotion Association	(Opening Remarks)
(1)		Mr. Yu Murai Deputy Director of Land Mobile Communications Division, MIC	The situation surrounding regional BWA
(2)		Mr. Hiroo Ochikubo Itami city department, Hyougo pref.	Examples of utilization of regional BWA in local governments (1)
(3)		Mr. Yoshimasa Suzuki Officer of Mihama town office, Mie pref.	Examples of utilization of regional BWA in local governments (2)
(4)		Mr. Naoto Ito Heart Network Co., Ltd.	Examples of utilization of regional BWA in local governments (3)
(5)		Mr. Naruhito Shiraishi Ehime CATV Co., Ltd.	Introduction of regional BWA business initiatives

## Participation in the Inter BEE 2017

The 53rd Inter BEE 2017 was held from 15 through 17 November at the Makuhari Messe in Japan, where ARIB / DiBEG participated in the exhibition for the promotion of ISDB-T. This was the 4 consecutive participation for ARIB / DiBEG.

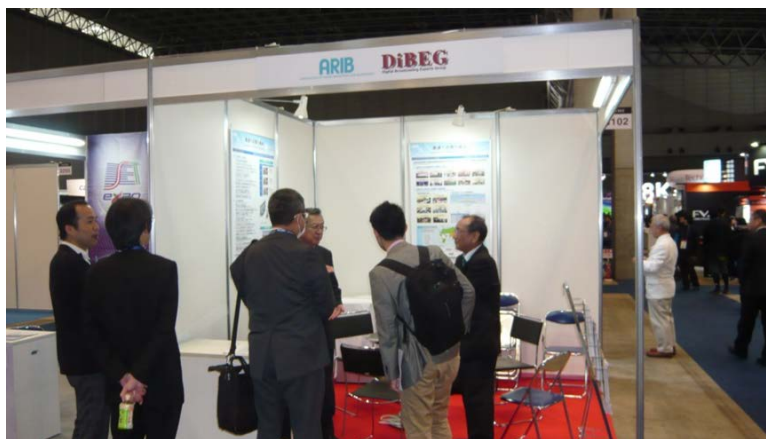
The Inter BEE this year boasted the largest exhibitors of 1,139 companies/organizations in its history, including 643 foreign participants from 33 countries, and 38,083 registered visitors, also the largest number of visitors ever.

At the exhibition hall there were many displays and demonstrations on 4K/8K broadcasting which is scheduled to put into commercial service in December next year in Japan, including products, systems and technologies related to 4K/8K and IP transmission. Also there were a number of presentations and exhibits applying AI and VR technologies for broadcasting, attracting the attention of many of the visitors.

At the ARIB / DiBEG booth we introduced the latest situation of standardization activities in the field of broadcasting as well as our international activities in the ISDB-T promotion. Inquiries we received from the visitors included technical subjects related to UHDTV and the latest status of digital TV implementation in many parts of the world.

As usual, there was a booth of SET (Sociedade Brasileira de Engenharia de Televisão) Brazil right next to the ARIB/DiBEG's, and we could collaborate in the exhibition and exchange of the latest information, including the schedule change of the SET Expo 2018.

Mr. Olímpio José Franco, Superintendent of SET, made a presentation of the International Conference Room, toward the Inter BEE participants regarding the latest status of ISDB-T implementation in Brazil and future development and planning of broadcasting technologies of his organization.



**Overview of the ARIB/DiBEG Booth**



## Connected Car using LTE / 5G Workshop

“Workshop of Connected Car using LTE / 5G” was held on 20 November 2017. The workshop was jointly organized by ITS Info-communications Forum and Advanced Wireless Communications Study Committee of ARIB.



Recently research and development relating to “Connected Car” with mobile communication systems such as 4G / LTE and 5G and those demonstration experiments are globally active. With this background, members of Administrative Offices and 5GAA (\*) board were invited and delivered lectures aiming at grasping overseas trends and Japan’s efforts for Connected Car, and exchanging information with both domains of automobile and telecommunication industries.







\* 5G Automotive Association


### ◆ Overview of the Workshop

Date	20 November 2017
Venue	ARIB (Tokyo, Japan)
Organizer	Cellular System Applications TG, Advanced ITS Info-communication Systems Committee, ITS Info-communications Forum /  LTE V2X Ad-hoc Group, Mobile Partnership Subcommittee, Advanced Wireless Communications Study Committee, ARIB
Participants	About 120

The program of the Workshop was as follows.

	Speaker	Title
	Mr. Kurazo Segawa  Secretariat, ITS Info-communications Forum	(Opening remarks)
	Mr. Takehiro Nakamura  Leader, Cellular System Applications TG, Advanced Wireless Communications Study Committee	(Explanation of outline)

Session1 : Introduction from the relevant ministries of Connected Car-related trends and initiatives		
	<p>Mr. Gaku Nakazato</p> <p>New-Generation Mobile Communications Office, MIC</p>	Toward Realization of Connected Car Society Standardization related to V2X in 3GPP
	<p>Mr. Nakaba Izumoto</p> <p>Traffic Planning Division, National Police Agency</p>	Standardization related to V2X in 3GPP relating to ITS (UTMS) by the police
Session2 : Standardization related to V2X		
	<p>Mr. Satoshi Nagata</p> <p>Leader, LTE V2X Ad-hoc Group, Advanced Wireless Communications Study Committee</p>	Standardization related to V2X in 3GPP
Session3 : Use cases and issues		
	<p>Mr. Mikio Iwamura</p> <p>NTT DOCOMO, INC.</p>	Use cases and issues for realizing Connected Car using LTE / 5G
Session4 : Overview of 5GAA and world trends on Connected-Car		
	<p>Mr. Dino Flore</p> <p>Director General, 5GAA</p>	5G V2X - The automotive use-case for 5G
	<p>Mr. Jim Misener</p> <p>5GAA</p>	C V2X – Regulatory Considerations; Spectrum and Ecosystem

	<p>Ms. Sarah Greenwood</p> <p>5GAAA</p>	<p>A unified technology solution For Automotive and C-ITS use cases</p>
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A lot of questions and answers were exchanged for each lecture, and the scheduled time was extended by 15 minutes. The participants' strong interest and expectation for the future development of Connected Car were felt.



**The Workshop**

### **ITU SG5 Meeting and WRC-19 Preparation Workshop**

#### ◆ ITU-R SG5 Meeting (The 13th)

The ITU-R SG5 (Chairperson: Mr. Martin Fenton of the UK) is dedicated to studies related to terrestrial services, and is normally held once a year.

The 13th meeting was held on November 20, 2017 in Geneva, Switzerland, and about 120 people participated, including 11 people from Japan headed by Ms. Kawasaki of Land Mobile Communications Division, MIC.

As a result of deliberation on the recommendations / report draft submitted by the four WP (Working Party) under SG5, all were adopted / approved with part of which had been amended. In addition, the activities were reported from TG 5/1, which is a group

undergoing discussion on WRC-19 agenda item 1.13.

Regarding WP5D, a new report ITU-R M.[IMT-2020. TECH PERF REQ] stipulating requirements on IMT-2020 radio interface, a new report ITU-R M.[IMT-2020.EVAL] defining evaluation method, a new report ITU-R M.[IMT-2020.SUBMISSION] that provide the format to propose were approved.



**SG5 Chairperson (center)**

Japan has made a great contribution in creating new ITU-R reports. Based on these reports, it is scheduled that technical proposals will be accepted and evaluated, and recommendations on technical specification will be developed on 2020. Next meeting will be held on 19-20 November 2018.

#### ◆ WRC-19 Preparation Workshop (The 1st)

This workshop aims to promote harmonization between the regions by sharing information on the study's progress of the six regional groups of the ITU on each WRC-19 agenda to be held in 2019. This time is the first and it is scheduled to be held three times before WRC-19.

The workshop was held on 21 and 22 November 2017 and about 200 people from each country participated, including 9 people from Japan led by Mr. Yasuda of International Frequency Policy Office.

Representatives of 6 regions gathered to share information on the study's progress in each region and the interim views at the moment.

Next meeting will be held in November 2018.



**WRC-19 Preparation Workshop**



## The 4th Global 5G Event in Seoul

The 4th Global 5G Event was held in Seoul, Korea on November 22 and 23. The Event was organized by the Korea 5G Forum. Over 300 participants from 16 countries heard discussions on the Event's overall theme "5G, Accelerating the 4th Industrial Revolution".

In addition, at the beginning of the Event's second day, the 5GMF signed a MoC with Turkey's 5GTR Forum.



**The 4th Global 5G Event**

### ◆ Overview of the Event

Date	22 and 23 November 2017
Venue	JW Marriot Hotel Seoul (Seoul, Korea)
Organizer	Korea 5G Forum
Presenters	52 moderators and panelists, including 6 from Japan

### ◆ Summary

There were 315 participants from 16 countries, including those from 5G promotion organizations and government ministries of Japan, the US, Europe, Korea, China and Brasil.

The welcoming address was given by Mr YongSoo Kim, Vice Minister of the Ministry of Science and ICT. This was followed by the keynote speech, "5G at the center of Hyperconnectivity supporting the 4th Industrial Revolution" given by the Chairman of the 5G Forum, Dr. Seong-Mok Oh, who introduced the activities of KT Corporation.

The opening session began with the introduction of government activities related to 5G. This was followed by discussions on the issues related frequencies, where the audience

learned about the difficulties involved in designating unified frequency bands globally and the expectations of multiband support from chip vendors. There were also discussions on the state of activities various 5G promotion organizations are working on currently.

The main session included three panels on : 5G deployment and service plans, the current state of 5G verification trials and building cooperative relationships with relevant industries where information was discussed and shared. C-V2X was often used as an example of how verticals could utilize 5G during these presentations.

There were also two special sessions. One discussed the state of international cooperation among international organizations. The other discussed 5G during and after PyeongChang Olympics, which included the current state of preparations.

The closing remarks were provided by 5G Americas' Mr. Chris Pearson, who announced that the 5th Global Event would be held in May, 2018 in Austin, Texas.

At the conclusion of the main program invitees were able to join an Operator 5G tour at demonstrations sites in the city of Seoul managed by SK Telecom or LG U+ as well as see what 5G services that KT Corporation plans to offered for PyeongChang Winter Olympics.

The following 5G promotion organizations organize this biannual event : 5GMF (Japan), 5G Forum (Korea), 5G Americas (USA), IMT-2020 (5G) Promotion Group (China), 5G-IA (Europe), 5G Brasil (Brasil)

#### ◆ MoC with Turkey's 5GTR Forum

The 5GMF and Turkey's 5GTR Forum signed a MoC (Memorandum of Co-operation) on November 23 before the beginning of that day's sessions.



**Signing Ceremony with Turkey's 5GTR Forum**

## The 34th General Meeting of XGP Forum

The 34th General Meeting of XGP Forum was held on 29 November 2017 at ARIB in Tokyo, Japan. 46 delegates from MIC and signatory member companies attended the meeting.

### ◆ Overview of the Meeting

Date	29 November 2017
Venue	ARIB (Tokyo, Japan)
Participants	<p>[Forum Member] Mr. Yoichi Maeda (Chairperson), Mr. Fusaki Matsui (Vice-Chair), Mr. Osamu Kamimura (Vice-Chair), 38 representatives from 21 member companies</p> <p>[Guest] Mr. Isao Sugino, Mr. Kazuhiro Wada (Land Mobile Communications Division, MIC), Mr. Ikata (ARIB)</p>
Approved Resolutions	<p>(1) The Memo of the previous General Meeting</p> <p>(2) Acknowledging New Members</p> <p>(3) The report of Activities and the Statement of Accounts in FY 2016</p> <p>(4) The proposal of Activities and the Budget in FY 2017</p> <p>(5) Amending Rules for Annual Signatory Membership Fee and Voting</p>
Special Presentation	<p>Mr. Isao Sugino (MIC) “Overview of Mobile Communications in Japan”</p> <p>Mr. Asimakis Kokkos (Nokia Solutions and Networks) “Nokia MulteFire for sXGP”</p> <p>Mr. Stanislav Kazak (Nokia Solutions and Networks) “MulteFire 1.9GHz LBT Demonstration”</p> <p>Mr. Hiroto Goya (Huawei Technologies) “The Evolution of XGP Services and Solutions”</p> <p>Mr. Nanda Menon (Athonet Srl) “Mobile Edge Core for Enterprise LTE”</p>



**General Meeting**



**Presentation**

## **Symposium for promoting safe and secure use of radio waves in medical institutions**

A symposium, "Symposium for promoting safe and safe radio wave utilization at medical institutions" was held on 7 December 2017 at Otemachi Sankei Plaza Hal (Tokyo, Japan) co-organized by EMCC (Electromagnetic Compatibility Conference Japan), of which ARIB is the secretariat, and MIC. The symposium was supported by Ministry of Health, Labor and Welfare, Ministry of Education, Culture, Sports, Science and Technology, Japan Medical Association, Association of Japanese Healthcare Corporations, Japanese Association of Psychiatric Hospitals, Japan Hospital Association, All Japan Hospital Association, Japan Municipal Hospital Association, JEITA (Japan Electronics and Information Technology Industries Association), as well as ARIB.

This symposium was held to summarize the results of the study at the "Radio Utilization Promotion Subcommittee at Medical Institution" (Chairperson: Jikei Medical Science Graduate University Professor) established in EMCC in September 2015, and to disseminate "Guidance for the safe and secure radio wave use in medical institution" formulated and announced by EMCC on 4 April 2016.






At the symposium, "Safety usage rules (example) of radio waves in medical institution" document, leaflets, educational video (under development this year) which had been created after the release of the guidance in 2016, were introduced. 352 people participated in and active exchange of opinions was done.



**The Symposium**



The program of the Symposium was as follows.

Session	Speaker		Title
		Mr. Katsuya Watanabe Director-General, Telecommunications Bureau, MIC	(Opening remarks)
		Mr. Hajime Fukuchi Chairperson of EMCC	(Introduction of EMCC)
(1)		Mr. Katsuyuki Kondo Director, Vice President of Akita University	“Examples of utilization of radio waves in hospitals”
(2)		Mr. Shinya Nakamatsu Medical Technology, Department of Clinical Engineering, Heartlife Hospital	“Review of mobile phone usage rules in hospitals based on The Guidelines”
<p>Panel Discussion: “Concrete approach toward safe and secure radio wave management”</p> <p>Panelists:</p> <p>Mr. Takashi Kano (Coordinator: Jikei Medical Science Graduate University)</p> <p>Mr. Hiromi Ishikawa (Japan Medical Association)</p> <p>Mr. Tetsuo Endo (Taisei Corporation)</p> <p>Mr. Michihiro Omichi (Japan Hospital Association)</p> <p>Mr. Yoshiya Muraki (Fukuda Denshi)</p> <p>Mr. Katsuyuki Kondo (Akita University)</p> <p>Mr. Shinya Nakamatsu (Heartlife Hospital)</p>			
			



## VSC Seminar 2017

ITS Info-communications Forum held the “Vehicle Safety Communications (VSC) Seminar 2017 - The results of the international conference concerning VSC and the activity report of the Forum -” on 14 December 2017 at the Meiji-Kinenkan Hall in Tokyo, Japan. At this seminar, about 150 people participated, having Mr. Isao Sugino, Director of the Land Mobile Communications Division, MIC as a guest.

The program of the Seminar was as follows.

Session	Speaker	Title
	Mr. Isao Sugino Director of the Land Mobile Communications Division, MIC	(Greeting by Guest)
	Mr. Takeshi Yamamoto Chairman, International Relations Committee	(Opening Remarks)
<b>[Part 1] International Standardization Trend on ITS Wireless System</b>		
(1)	a) Mr. Gaku Nakazato Director of New-Generation Mobile Communications Office, MIC  b) Mr. Kazuhiro Wada Assistant Director of New-Generation Mobile Communications Office, MIC	Efforts of MIC on Radiocommunication Technologies for Connected Car, Cooperative ITS and Automated Driving (From ITS World Congress Montreal)  a) ES11: Communication Options for Connected, Cooperative and Automated Transport  b) SIS87: Radiocommunication Technologies for Cooperative ITS and Automated Driving
(2)	Mr. Satoshi Oyama Chairman, VSC-TG, International Relations Committee	WRC-19 Agenda Item 1.12 “ITS Applications” and 1.16 “5GHz Band Radio LAN” (Status Report from ITU-R WP 5A / APG-19 / AWG)
(3)	Mr. Masanori Misumi VSC-TG, International Relations Committee	Global Trend of Standardization for V2X Based Driver Assistance Systems

<b>[Part 2] Global Trend of Advanced Driver Assistance Systems and Automated Driving Systems</b>		
(1)	Mr. Takahiko Uchimura Senior Vice President, ITS Japan	Global Trend of Automated Driving Systems (From Automated Vehicles Symposium, ITS European Congress, ITS World Congress and SIP-adus Workshop)
(2)	Mr. Takashi Sueki Chairman, 700MHz Band ITS Implementation Committee	The Latest Trend of ITS Wireless System "ITS Connect" using 700MHz Band
(3)	Dr. Ming-Whei Feng Vice President, Institute for Information Industry	ITS V2X on 2-Wheelers Safe Mobility
<b>[Part 3] Status of Study on Next Generation Wireless Communication System</b>		
(1)	Mr. Yoshiaki Tsuda Chairman, DSRC Platform WG	Study on ITS application sublayer that expands DSRC platform
(2)	a) Mr. Masaharu Hamaguchi Chairman, Radio System Technology TG b) Mr. Takehiro Nakamura Chairman, Cellular System Applications TG	Wireless Communication System for Automated Driving System a) Study on Wireless Communication System for Automated Driving b) LTE-V2X/5G Standardization Status
	Dr. Sadao Obana (Ph.D) Chairman, Advanced ITS Info-communication Systems Committee	(Closing Remarks)

### **The 51st CJK IMT Working Group Meeting**

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

The 51st CJK IMT Working Group Meeting was held in Okinawa, Japan on 12 to 13 December 2017. 9 people from ARIB, 8 people from CCSA (China) and 7 people from TTA

(Korea) participated in the Meeting.

In the Meeting, following actions were carried out.

- (1) The results of the 3rd ITU-R TG5/1 which had been held in September, the 22nd AWG (ASIA- PACIFIC TELECOMMUNITY Wireless Group), the 28th ITU-R SG5 WP5D were confirmed. And also, reports of each SDO's activities and discussions at 3 GPP were shared.
- (2) Information was shared regarding the schedule of IMT-2020 technical proposals to ITU-R in each country, and the activities of the external evaluation group.
- (3) Information was shared on the preparation progress of each country for the 4th TG 5/1 meeting to be held from 17 January 2018.
- (4) Information was shared on preparation progress of each country for the 29th WP 5D meeting scheduled to be held from 31 January, and based on the activities of the two Special Interest Groups (SIG - Spectrum, SIG - Evaluation), it was decided that China, Korea and Japan would prepare two joint contribution candidates.

The next CJK IMT Working Group Meeting will be scheduled on 16 and 17 May 2018 in Hangzhou, China.



**The 51st CJK IMT meeting**

<p align="center"><b>Monthly seminars on radio wave use</b></p>
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<b>No.153</b>	24 October 2017
<b>Title</b>	The Big Bang of the space industry that ICT brings - Overview of the Report from the panel on Space x ICT -
<b>Speaker</b>	Mr. Takashi Nakayama  Chief of Satellite Development, Space Communications Policy Division, International Strategy Bureau, MIC
<b>No.154</b>	30 November 2017
<b>Title</b>	Activities on 5G and Beyond in Europe
<b>Speaker</b>	Dr. Hendrik Berndt  Former Chief Technology Officer & Chief Science Officer and Senior Vice President of DOCOMO's Communications Laboratories in Europe.
<b>No.155</b>	1 December 2017
<b>Title</b>	The situation surrounding Autonomous Driving / Connected Car, and Initiatives <b>of</b> the MIC
<b>Speaker</b>	Mr. Daisuke Kawasaki  Deputy Director of New-Generation Mobile Communications Office, Land Mobile Communications Division MIC
<b>No.156</b>	6 December 2017
<b>Title</b>	Present and Prospect of Digital Terrestrial Television Broadcasting in Peru
<b>Speaker</b>	Mr. Nobuo Okabe  Former Specialist in JICA

## Standards

### 1. Newly established Standards at Standard Assembly on 17 October 2017

None

### 2. Revised or abolished Standards at Standard Assembly on 17 October 2017

#### (1) Telecommunications field

STD Number	Standard Name	Version
STD-T63	IMT-2000 DS-CDMA and TDD-CDMA System	Ver.13.00
STD-T104	LTE-Advanced System	Ver.5.00
STD-T106	920MHz-Band RFID Equipment for Premises Radio Station	Ver.1.1
STD-T107	920MHz-Band RFID Equipment for Specified Low Power Radio Station	Ver.1.1
STD-T108	920MHz-BAND TELEMETER, TELECONTROL AND DATA TRANSMISSION RADIO EQUIPMENT ARIB STANDARD	Ver.1.1

#### (2) Broadcasting field

None



**Association of Radio Industries and Businesses**

ARIB SEASON  
Publishing

1-4-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-0013 JAPAN  
<http://www.arib.or.jp>