Inter BEE

International Broadcast Equipment Exhibition

Inter BEE

International Broadcast Equipment Exhibition

International Broadcast Equipment Exhibition   Inter BEE

REVIEW 2014

REVIEW 2014

INTER BEE ONLINE
www.inter-bee.com

Inter BEE 2014
International Broadcast Equipment Exhibition
50th ANNIVERSARY

Inter BEE 2014 (the 50th International Broadcast Equipment Exhibition) was held through the support of five ministries/organizations and the cooperation of 34 other organizations in Makuhari Messe in Chiba City from November 19 (Wednesday) to November 21 (Friday), 2014.

■ Japan's Premier "Comprehensive International Media Exhibition"

Inter BEE, which celebrated its milestone 50th anniversary on this occasion, was comprised of four categories: "Video and Broadcast Equipment," "Professional Audio Equipment," "Professional Lighting Equipment" and "ICT/Cross Media." This event brought together under one roof a wide range of stakeholders, including broadcasters, equipment manufacturers, service providers, content business personnel, creators and designers. This exhibition was used as a once-in-a-year opportunity to be a hub for the dissemination and exchange of information on the latest trends.

Moreover, efforts toward the sophistication of broadcasting services that are being worked on with an eye on the Tokyo Olympics and Paralympics in 2020 raised expectations for ultra-high-definition video technologies such as 4K/8K, second screens, smart televisions, HTML5 video distribution, digital signage and public viewings. There was a series of eye-catching proposals one after another pointing to the now and future of the media industry from various companies both in Japan and overseas.

■ Simultaneous Holding of Various Conferences by Japanese and International Experts

Specialists and key persons in sound and video from overseas came to Japan and became a major feature of Inter BEE in terms of the ability to share the latest worldwide trends while they were in the country. These experts gave special talks and invited talks every day during the exhibition, including keynote speeches on the first day of the event. Japanese versions of paid sessions held at the NAB Show in the United States were also available this year. Leading speakers from overseas gave lectures on four topics that were very popular in the United States. In addition, the latest trends were disseminated by experts coming to the exhibition from both in Japan and overseas at the "Visual Symposium," "Audio Symposium," "Tutorial Session" and "Asia Contents Forum" that attract attention every year.

■ 50th Anniversary Commemorative Event and New Broadcasting & Communications Cooperation Project

Inter BEE, which was celebrating its 50th anniversary this year, held "INTER BEE EXPERIENCE" as a commemorative event with the aim of being an opportunity for users to be able to interact more effectively with products, technologies and information through hands-on-experiences in order to further improve functions as an exhibition. There was a line array speaker demo on display for the first time at an exhibition in Japan.

Furthermore, a new project called "INTER BEE CONNECTED" was put on as a place to showcase the latest trends in video and ICT. These include the possibilities for media business with cooperation between broadcasting and communications and through the Internet, displays of the use and application of the cloud as content production infrastructure, and the utilization of digital content and big data that will be indispensable in social systems in the future.

Exhibitors
A record number of exhibitors participated in the 50th anniversary of Inter BEE

Personnel not traditionally involved with this exhibition such as cloud service providers and ICT) participated in Inter BEE, so there was rapid progress with "cooperation between broadcasting and communications" and "use and application of ICT." New broadcasting business possibilities were proposed by all these companies.

Exhibitors: **977** (record-high) companies

Overseas exhibitors: **543** (record-high) companies

Trading Visitors
A record number of visitors attended Inter BEE from many fields

There was a rapid increase in new streams of visitors to match the expansion in the exhibition area. There were opportunities for proactive hands-on-experiences and information exchange regarding the proposals of each company. There was a great deal of press coverage and the exhibition was widely introduced to people both in Japan and overseas.

Visitors: **37,959** (record-high) people

Members of the press: **411** (record-high) people

International
State-of-the-art technology and trends in Japan attracting the world's attention

Advanced efforts toward the sophistication of broadcasting services such as 4K/8K that are proceeding across Japan for the Tokyo Olympics and Paralympics attracted a great deal of attention from overseas as well.

Overseas exhibitors: **33** countries/regions

Overseas visitors: **42** countries/regions

Outline

Table of Contents

Live

Performed by LiLi

Live
Performed by LiLi

A new challenging experiential exhibition in commemoration of the 50th holding

Even before the "INTER BEE EXPERIENCE" made its debut as a new event on the second day of the 50th Inter BEE, the sound industry was buzzing with excitement. On November 20, the Makuhari Messe Event Hall was jam packed with eager crowds of visitors since morning and both the first and second sessions of the event were a great success.

The first session in the exhibition hall featured an experience-based demonstration of line array speakers by nine companies, and despite sound volume regulations, the audience was treated to a great live sound performance, as each company put their kit through its paces.

The second session featured an anniversary live party commemorating the 50th holding of Inter BEE with sound and video creative performances showcasing the latest gadgets, such as "Live Entertainment" a collaboration with Rhizomatiks.

(For details on the second session, see "Interview with Rhizomatiks crews", Pages 16 to 19.)

Overwhelming reality: A great assortment of state-of-the-art line array speakers

The first session's "Line array speaker experience-based demonstration," showed the very latest offerings manufactured by nine companies including speakers exhibited for the first time in Japan. The Makuhari Messe Event Hall, adjacent to the exhibition hall, is a full-size 9,000-seater hall used to host many live musical events and provided a great opportunity for the audience to experience speaker sound quality in a natural live sound type environment. This event is a new opportunity for people to actually experience the speaker products in a state close to their actual usage conditions.

Rather than the more conventional ground stack floor installation style, the speakers were suspended above the stage as a "Flying installation", ideal for line array speakers. Of course shows demonstrating and comparing line array speakers have been held in Germany and the United States, but the demonstrations were outdoors; comparative listening indoors to sounds from several sets of line array speakers is a very rare event indeed.

From the very beginning, Mr. Kenji Ouchi, a sound designer, helped plan the event as a sound director and engineer. He has been the PA engineer for many concerts given by artists, and in addition, for some time he has been actively involved in "Music Station," a live music program created by TV Asahi. Since 2005, "Super Live" as a special version of M Sute, has been held at the end of every year in this Makuhari Messe Event Hall. However, it was the first time for Mr. Mr. Ouchi, even with his considerable experience as a PA engineer and with his in-depth understanding of the characteristics of the hall, faced the challenge of suspending nine sets of line array speakers at the same time. One speaker alone among the sets of speakers weighed in at a hefty 800 kg, requiring extensive preparations, such as calculation of the load-bearing strength of the hall. Mr. Ouchi commented, "I knew it was hard to suspend even just one speaker for an actual concert. So I did wonder quite seriously, if it was OK to suspend so many speakers at one time."

Comparative listening to the sound characteristics of nine speaker sets in one day

Mr. Ouchi summed up the significance of the experience-based demonstration: "No professional knows what speakers are installed in which halls. In addition, there is almost no opportunity to listen to sounds from different speakers under the same conditions and environment. Therefore, it is very useful for PA engineers to experience the characteristics and differences of speakers for when they work at concerts and events. I think that is the real value of this experience-based demonstration; it's essentially a sort of sound lab allowing engineers to set a base line by listening to the same sound sources from different speakers in the same environment."

The nine sets of speakers were large, medium, or small and each had their own characteristics. In the event, taking into consideration the space and the weight balance, the small- and medium-size speakers were suspended in the front row, and large-size ones in the rear row above the stage. In addition to sound pressure, the properties and characteristics of one set of speakers are influenced by a variety of factors.

Mr. Ouchi said, "Line array speakers are filled with high technology and consequently incorporate many different concepts and designs. In speakers, for example we find one set has tens of DSPs installed, and another has a separate amplifier. In front of the stage, the amplifier of each set of speakers was exhibited, allowing them to be seen and

checked over by visitors. I know each company worked very hard for this event by preparing tuning and presentation content and the like to put on a really good demonstration of their products.

Thirty minutes of seeing, listening and feeling

The demonstrations started at 10:30 and ended at 16:40, giving each of the nine companies a 30 minute time slot. In the first five minutes a set sequence was presented by each company: a narration, reproduction of music from a CD sound source, and a performance of reference musical pieces by a live band. For the remaining 25 minutes, each company demonstrated its product's characteristics, and unique audio points. For example, the person in charge of each company explained their speakers at a PA desk, reproduced sound sources suitable for its speakers, adjusted the sound volume, and moved the position of the sound.

A PA desk was set up in the center of the hall, and an 18m square "Listening area" where the chairs were set up was created around the desk.. Line array speakers can output sounds to a specified area with changed sound volume, and it is also possible for the speakers not to output sounds to other places, but to just focus in a particular area. By setting a listening area each company could clearly demonstrate such functions, in addition,

during the demonstration, each company used its speakers to direct sounds not only to the listening area, but also to other locations within the hall.

To the exhibition booths with a clearer sound picture

Some of the companies participating in the first session of EXPERIENCE had their own booths in the exhibition hall, and visitors having experienced the actual sound of each set of speakers in the event made a bee line to their favorite company's booth. One person in charge of a booth said, "This is great, visitors can come and chat to us at our booth after listening to the sound output through the speakers in the EXPERIENCE hall, and that can only be a good experience for them."

As a set of line array speakers is a pretty big piece of equipment designed to output a large volume of sound, there are not too many opportunities to demonstrate their performance. One booth staff member said, "This was the first time in Japan, for visitors to listen to the powerful sound of our line array speakers; this was a much needed and timely event. After the EXPERIENCE, so many people visited the booth we ran out of leaflets and had to restock." Another booth reported, "We got the visitors to actually feel the real power of the sounds, regardless of the apparent size of each set of speakers."

One company spokesperson enthused, "We could really

get the visitors to understand the high quality of our product, by comparing the sound of our speakers to those of other companies. We have received many requests for demonstrations, and this event was a good opportunity for us." And so this first EXPERIENCE established a sound reputation for itself.

More expectation to experience-based exhibitions

In the event hall, many people were seated in the listening area, but others moved around the hall to carefully listen to the different types of sound.

All of the visitors interviewed highly rated the event and were appreciative it was possible to listen to the same sound source output from different speakers under the same conditions. One of them also said, "I could understand the characteristics of each company." Others said, "If the scale of the event was a little smaller, it could be a bit more compact.", "It was a good opportunity to checkout new product information, and very interesting to see so much new equipment.", "Holding an on-site sale of demonstration and secondhand products would be great.", and "I want to listen to the same sound source from different speakers successively."

A wide variety of sound industry people visited the event, such as sound engineers, PA, people in charge of hotel, event and hall sound, and people handling images and video.

The Increasing Complexity of Content Business
Use the Cloud for Swift Monetization
High Security Recognized by the MPAA and Versatile Scalability
An interview with Mr. Mark Ramberg, Amazon Web Services

On November 20—the second day of Inter BEE 2014—Mr. Mark Ramberg (General Manager, Media and Entertainment, Amazon Web Services, Inc. (U.S.A.)) and Mr. Kiyonori Kitasako (Solution Architect, Amazon Data Services Japan K.K) presented a lecture entitled "The Evolution of Media Workflow into the Cloud." We asked Mr. Mark Ramberg while he was in Japan about the pros of the cloud for media businesses and what distinguishes Amazon Web Services.

"The required agile solution"

■ **Thoughts on the challenges faced by media companies today**

The development of high-resolution video and advancement of computers, along with the wealth of applications based on them and the widening array of devices used have created a situation where digital contents can be consumed in a greater number of forms. This can be said of broadcasting, but also movies, games, and even written media.

For media companies, this means that the opportunities for monetizing their content have increased. However, presenting contents on many media and devices while thinking of profitability is actually quite complicated. New media, devices, and streaming technologies are likely to keep appearing in a short span of time. The traditional method of building delivery equipment in-house and adapting software would require too much invest-ment to be viable.

Building business in a short span of time while cutting costs, in response to rapid changes in the environment: AWS is drawing attention as the new solution for this challenge. What is important is not the speed in solving the problem, but the speed in starting that business (agility). In times past, implementing agility required a great investment. However, with the cloud, it has become possible to "deploy a business inexpensively and quickly."

Scalability is a characteristic of the cloud that is very important in allowing for agility. When streaming video on the Internet, there may be a sharp spike in users for a certain event. Allocating high bandwidth and capacity at all times to be ready for such a situation on the Internet is costly and inefficient. The advantage of the cloud is that it can adapt to the change in usage, requiring payment for the cost of only what was used.

■ **About Amazon Web Services**

Amazon Web Services (AWS) started offering its services in 2006, and now has over 1,000,000 users in over 190 countries and territories. This includes over 900 governmental and public organizations and over 3,400 educational organizations. Services had been offered in Japan since 2006, but the range of applications have increased even more since the opening of data centers in Japan ("Tokyo Region") in March 2011. Currently, there are over 20,000 users in Japan. A testimony of the reliability of this system is the "Best Practice" rating by the Motion Picture Association of America (MPAA), a highly respected organization in the media business. They trust that AWS is safe enough to trust with their data, from RAW masters to content for streaming.

Mr. Mark Ramberg
General Manager, Media and Entertainment
Amazon Web Services, Inc.

"Many features for video broadcasting and production"

■ Characteristics of AWS

AWS has continued to expand its features in a short period of time since its inception, and is offering over 1,100 new services and new functions by the end of 2014. Features added include big data processing, data warehouse, HPC (high-performance computing), storage, and archives in addition to web applications, mobile applications, and core systems. With these enhanced functions, it has been used successfully for broadcasting and other production workflows in the content business, data asset management, and even multi-device delivery operations.

The outstanding feature of AWS is that the pros of scalability, such as with servers and network bandwidth, can be put to work for the business, and services and technology matching the business can be added as it expands. There has been increased use of it by the media industry. On the rise are com-

panies contemplating using the cloud in producing and streaming video content.

"Used in production of Hollywood films"

■ Features for "content" companies

As mentioned, AWS is built so that all necessary procedures can be handled on one platform that is trustworthy. The distinctive characteristic is that partner companies are adding more features on top of this platform.

There are also cases of advanced video editing being done on the cloud.

The source videos are uploaded onto the cloud, making control easier. The AWS platform allows for a workflow where large data is moved as little as possible. This is based on the idea of "Content Gravity," where access is centered instead of moving the content. This prevents bottleneck issues such as a narrow bandwidth or instability of the Internet connection.

AWS offers various storage services (Amazon EBS, Amazon S3, Amazon Glacier, and Amazon Storage Gateway) and the client can choose the one which suits his storage needs. Additionally, Amazon Elastic Transcoder automates and abstracts transcoding, allowing for greater extensibility.

Some applications for content production are available with a license for use in the cloud. The options a client can choose from are increasing.

"Used by Netflix. Processed 20 billion requests per month."

■ Types of media companies using the service

Netflix is using the AWS service almost 100%. It started using AWS in 2009 to transcode for delivery to PS3. It has been increasing its ratio of AWS use to this day. During 2010, its online service scaled to 37 times the size, and processed 20,000,000,000 requests per month as of January 2011. During this period, AWS was able to handle this growth.

The Public Broadcasting Service (PBS, U.S.A.) delivers 2.5 PB (petabytes) of video data through Amazon's CDN service, Amazon Cloud Front. PBS

started using AWS because of this service.

upLink (Disney/ABC Television Group) built a delivery system for channels including ABC Family, ABC, Disney, and Disney XB on AWS. Some of the requirements for this delivery system are automated closed captioning and the ability to handle live programs, real-time ad removal, and multi-bitrate encoding for various devices. All of this is being done. It is currently a scalable system handling everything from ingestion to delivery.

Samsung Electronics is operating its "Smart Hub" for smart TVs using AWS. Operating on the cloud has saved them

85% in hardware and maintenance costs, compared to building a system in-house. This works out to be 34,000,000 dollars.

"iPlayer in the Cloud" developed by the BBC is Britain's largest VoD system, getting up to 7,000,000 requests each day. BBC was able to complete this system in one year with only 18 engineers within their company. The system uses a message-driven cloud-based architecture, configured on Amazon SQS (Simple Queue Service).

Besides these, many media use AWS, including martial arts channel UFC and Sony Media Cloud Services' application Ci.

"A CDN boasting a quality of the world's best rank"

■ Features available on CDN

Amazon CloudFront is the CDN service of AWS. Currently, there are three edge server bases for Japan: two in Tokyo, one in Osaka. Amazon has 52 edge server bases worldwide. According to a company specializing in ratings, Amazon CloudFront's client-side availability ratio is rated at the top of its industry. Especially in Japan, it is achieving an extraordinarily high response rate. The average response is within 500 msec, but

Amazon CloudFront in Japan is achieving response rates under 280 msec. Test results have shown that many responses are reaching even 40–60 msec. It is being used by many media-related organizations around the world, including PBS (U.S.A.) mentioned above, Ooyala, and IMDb.

■ Future developments in Japan

AWS, rated highly by even the MPAA as to its reliability, is beginning to be

incorporated into the production environments of many Hollywood studios. Cases should be available to share in the future. In Japan, too, building and monetizing business quickly—in another words, agility—will become more important than ever for the media, including the broadcasting industry, and game companies. AWS will be able to contribute to such companies.

Rapidly Changing Program Viewing Styles Requires New Viewership Measurement Technologies

Building a new standard for Broadcasters and Advertisers

An interview with Mr. Eric Solomon, Nielsen

Mr. Eric Solomon, a Senior Vice President of Nielsen (U.S.A.) gave the keynote speech "Media Viewing Trends in the U.S.A. and the Newest Trend in Viewership Measurement" at INTER BEE Connected. This event was one of the new initiatives commemorating the 50th Inter BEE event. Mr. Solomon vividly described the current situation of digital viewership measurement in the U.S.A. After an hour-long speech, Mr. Toshihiro Fukutoku, CEO of Nielsen Co., Ltd. (Japan)—the consumer watching behavior analysis arm of Nielsen—joined him on stage for an active question-and-answer session with the audience. The discussion also lasted around an hour, and many dynamic questions were posed by the full house.

"40.0% of all households subscribe to a fixed-rate VOD"

Mr. Solomon first referred to the "trend of cross-platform viewing" in the U.S.A., and carefully explained this based on data.

First, in regard to cross-platform, he commented: "With the advances in the Internet and streaming technologies, TV programs have become viewable via various devices and apps. This tendency will become ever stronger in the next 10 years."

He noted as a representation of this shift that cable TV—once constituting over half of program consumption-has declined to 45.4% in the past few years. In contrast, rising in proportion is optical fiber-to-the-home (FTTH), currently reaching 11.6%. Also, he shared data showing that fixed-rate VOD services such as Netflix and Amazon Prime are rapidly growing in use, and that by the latter half of 2014, 40.0% of all households subscribe to a fixed-rate VOD service. "This is no longer cutting-edge. It is becoming the main way to watch TV programs."

One of the devices for such viewing, tablets, are already used in 46% of all households. As for smartphones, he stated that they are already used in 75% of all households.

Mr. Solomon next moved his topic to how to measure cross-platform viewing in such a rapidly changing viewing environment, and first explained the conventional model of audience measurement.

There are 210 local broadcasting areas in the U.S.A., and Nielsen measures viewership of national and all local broadcasting areas using different methods depending on the size of that market. They have 20,000 households (50,000 persons) on their panel, and measure using audio watermarking technology. Mr. Solomon explained that by tracking content IDs embedded into the program by audio watermarking, information can be obtained about time-shifted viewing and on-demand viewing, in addition to real-time viewing (what is currently being broadcast).

He noted that today's form of TV viewing is not only real-time, but "a combination of methods have become the norm," including time-shifted viewing. The ratio is: live viewing (what is currently being broadcast) —less than 75%, time-shifted viewing—less than 25%, on-demand viewing —around 2%. Live viewing is decreasing rapidly.

■ Making post-broadcast viewing data count in advertising rates

Accordingly, negotiations took place between broadcasters, ad placement agencies, and Nielsen, who measures viewership ratings. As a result, it was decided that non-live viewing also has a certain effectiveness, and to count effects of time-shifted and on-demand viewing as well. Currently, the basis for advertising transactions for national television is "C3," counting viewership for three days after broadcast. Some broadcasters and advertising agencies have started basing their transactions on "C7," counting viewership for seven days after broadcast.

Nielsen is rapidly advancing research and development of technology to measure non-live viewership. In 2014, they expanded their measurement target to include tablets and smartphones, in addition to TVs and computers.

Nielsen's measuring is not limited to TV programs. They also track video clips and other contents not broadcast, as well as radio presented through networks, such as ESPN. Solomon noted that the reason they track such different forms of content is "because

advertisers want it," and went on to explain: "Advertisers use multiple forms of ads to execute their campaign, and need to evaluate all the forms. For this reason, we measure with consistency over different platforms and different content types."

He further explained that broadcast ads are "linear advertisements" and on-demand ads are "dynamic advertisements." Dynamic ads are programmed to serve ads based on the viewer's characteristics. The result is that viewers of the same program are seeing different advertisements. To work with this, Solomon notes that "since 2007, Nielsen has been offering ad viewership ratings in addition to program viewership ratings."

Mr. Solomon points out that, including this situation with advertisements, "digitalization is happening as never before." Nielsen has been developing new viewership measurement technology to keep up with such times and requests from the industry, and had implemented some new methods in 2014.

With one of those, Digital Program Ratings (DPR), it is now possible to measure viewing devices such as tablets and smartphones. Also, a measurement called "mobile impressions" measures and categorizes dynamic advertisements. This includes viewing on Facebook and other SNS, and collects data on how the viewer was led to viewing the advertisement.

Nielsen plans to extend its measuring target to programs viewed on Apple TV and on game consoles such as ones offered by Microsoft and Sony.

To grasp viewing trends of programs and advertisements on such a variety of platforms, Nielsen has incorporated a concept of "a complete survey" into its viewership rating measurements and is aiming to comprehensively measure viewing on the "extended screen," beyond the TV screen.

After the lecture, we asked Mr. Solomon about what TV programs should become in this cross-platform era, and what is being done by broadcasters in the U.S.A.

■ U.S. broadcasters searching for the best response

"Nielsen is placed between advertisers and the media, including TV networks. The fact that viewing is becoming dispersed among many forms is a challenge, but, in a sense, it is a step toward responding to the changing times by tearing down the customs of the industry and moving on to a new state. It's true that some people at those stations wish they could go back to the old days, but even they are well aware that the changes in viewing formats and attitudes cannot be stopped. 'Destruction' is a word often used, but I think we all understand that advertisers must also recognize that and make good use of it.

"For example, the discussion about changing the transaction index from C3 to C7, as I mentioned in the speech, is happening only because both companies were willing to adapt to the change in viewing habits brought on by technological progress. The measurement of viewership must also keep up with the changes, so we are proactively developing such a technology. By the way, C7 is currently being used in only some agreements. C3 is still used for timely messages, such as for movie releases. C7 is being used for 'evergreen' messages, meaning ones that don't lose their value over a certain period of time. An example of this would be TV ads for macaroni and cheese."

■ The fight to become "the media" for advertisement

"It's a given that commercial spots on TV are still the best advertising media. TV commercials take up a large percentage of the marketing budget, and I don't expect that to change. However, that has a lot to do with how you define 'TV.' I think the value of a 'TV program' itself doesn't diminish, whether it's being watched in the home on television or as video content on the Internet. However, Netflix, Amazon, and even YouTube are media who are trying to win over advertising budgets, just as broadcast stations are. Netflix is not an advertising media in itself, but I consider them similar, in that they are fighting over the viewer's time. Broadcast companies must continue to make excellent content, but must also think about how to deliver it to the audience."

■ A new challenge by the ABC Network

"There are networks exploring their options in the cross-platform era. The ABC Network is taking a progressive approach and planning programs with what they call 'ABC Unified,' treating cross-platform viewing as a given. Its aim is to present clients with rating forecasts for computers, mobile devices, and tablets in addition to TVs, and how much reach would be attributed to each. This would enable them to sell the whole package. This is a very different approach from selling commercial spots through advertising agencies. As viewing habits change drastically, they are taking initiative to make sure that they are not left behind.

"Nielsen's 'Cross-Platform Campaign Ratings' is the technology which can measure the effectiveness of such a campaign. We are currently not able to cover everything that ABC is broadcasting and streaming, but we are definitely working on developing it, to become an index to make such a network's ambitious plans a reality."

■ The wave of globalization brought on by the Internet

"Honestly speaking, I think the local broadcasting stations must be under a lot of stress. Local broadcasting areas came to exist because the original technology had the physical constraints of airwaves, and they had adapted to marketing local businesses, such as car dealers. However, in the age of the Internet, with Amazon, for example, a local market basically does not exist. Even with measuring viewership, maintaining the means to do so on a local level is becoming more costly.

"Personally, I believe that the broadcasting business will become even more global in the future, because the technology called the Internet is global, and the factors which had driven local businesses are on the decline. Furthermore, 'global' until now had been like a mass of local businesses put together, but I think the form of global business in the future will change into a more integrated one."
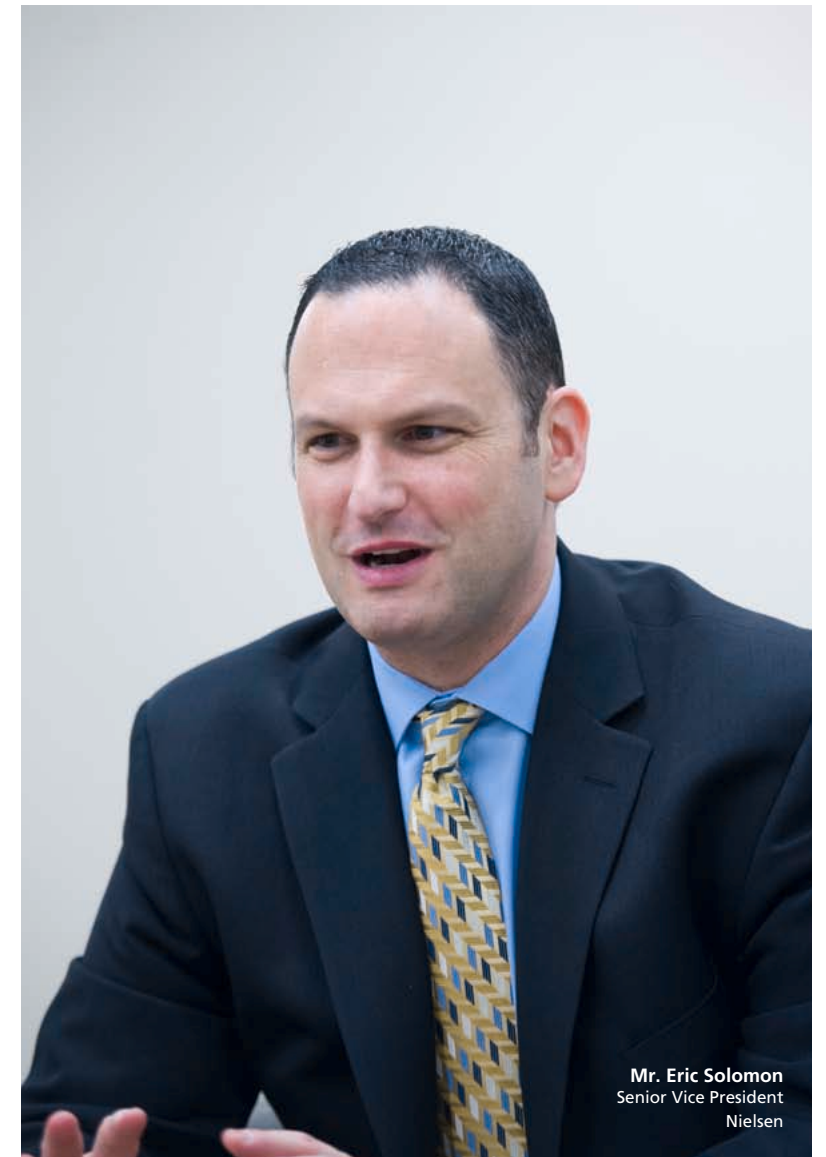
Mr. Eric Solomon
Senior Vice President
Nielsen

Devices may change, but TV programs retain their appeal

Photograph: From the left,
Mr. Daito Manabe
Mr. Motoi Ishibashi
Mr. Hidenori Chiba
(Rhizomatiks co., ltd.)

Collaboration of State-of-the-art Equipment and Innovative Creators Unprecedented Challenges beyond the Bounds of Exhibition

—Live performances leveraging state-of-the-art audio and video equipment—

At the evening of November 20, the second day of Inter BEE 2014, the Anniversary Live Party was held as the second part of INTER BEE EXPERIENCE. In the Live Entertainment of the Party, Rhizomatiks, a professional creator group, produced live performances using state-of-the-art equipment exhibited in the event in cooperation with Inter BEE. In this first collaborative challenge, creators managing most advanced performances that attract global attention meet state-of-the-art audio and video equipment, realizing a rare opportunity.

Rhizomatiks, the company produced this event, is a group of professional creators; each member has strong personality and their background varies widely from design to art, architect, mathematics, and engineering. They are making great performance in various expressive fields. Projection mapping in live performances of Perfume, a popular female trio techno-pop unit in Japan, is a primary example. Their activities also include advertising, PVs, and stage performances, getting domestic and global attention from art and entertainment industries.

World's leading creators join the event

Rhizomatiks organized three performances in the event, and all those joined the performances were the world's leading creators in the field of electronic art and live performances. The Event Hall, where the event would take place, was filled with excited visitors waiting the event; many had waited long before the Hall, and visitors had also surged from exhibition halls and the International Conference Hall as other events finished. The three performances never failed to grab visitors' hearts throughout the event. The performers and producers were generously applauded when they appeared on stage at the end of the event.

In Performance 1, SjQ++, a media performance group, played modern music in an improvising style with an artistic projected video corresponded to the music moment by moment.

The background video from projectors showed numeric characters and many monotone patterns changing dynamically in accordance with the improvised music played by SjQ++, integrating the music and video.

Performance 2 was offered by onnacodomo×Yuri Miyauchi. In this performance, onnacodomo, a VJ unit skillful at performances with live video, collaborated with Yuri Miyauchi, known as the "sound laboratory" and performs colorful electronic music and club music.

As Yuri Miyauchi played live music, onnacodomo, also on the stage, depicted silhouette-like pictures on the screen one after another that always matched his music. The video from a camera created reality only live performances could present.

In the last Performance 3, real dance by ELEVENPLAY, a dance company, collaborated with multicopters (drones) by Rhizomatiks and background music by Ametsub, a world-renowned electronica artist.

A single dancer surrounded by floating multicopters. The lights emitted from them illuminating the dancer and stage. The multicopters freely moved around in all directions as if they were alive with their own will, together with the dancer's actions, maximizing spatial expanse and stereoscopic image.

SjQ++

onnacodomo×Yuri Miyauchi

Rhizomatiks×ELEVENPLAY

Collaboration with Inter BEE realizes the live performances

■ Visit more than ten manufactures to collect information

To choose equipment, they directly visited more than ten manufactures and collected information. "It was a continuous process of trial and error," said Mr. Chiba. "We tried a lot of equipment mainly connected to performances we would offer. We chose equipment that gave us new experience that matched expression in the event, though personally, there was other equipment I wanted to use."

■ Live performances unique to exhibition

"This situation is unusual even from the viewpoint of producers," said Mr. Chiba. "We cannot use equipment such luxuriously in usual live performance sites, because we are inevitably aware of creation costs. This time, we can choose cameras or lenses free from cost. Of course, we are not being too greedy, but I'm glad that we have more choices than before. Another thing I noticed was that seeing catalogs was different from examining real equipment. In exhibition or trade fair, you can touch real things, which is unique to this project. Usually, I choose equipment thinking 'We can use this equipment sometime,' but in this case, we could use the equipment at once to create desired expression. This helped us greatly." Ishibashi also talked about performances Rhizomatiks produced, "You can see performances via live streaming or VOD. But there is something that can be conveyed only by seeing performance on site such as physical expression on stage in the real space. By attending live performances, this event will be truly valuable."

■ Importance of effects utilizing technologies in products

Just after the performances, Mr. Daito Manabe, Mr. Hidenori Chiba, and Mr. Motoi Ishibashi, still in excitement, spoke the impression of the event in the stage wing.

"This is a rare case, but creating effects utilizing technologies in the products is difficult," said Manabe. "To create an interesting show, stage effects are truly essential. At the same time, we could manage the performances thanks to creators joined us. I want to say thank you to them all. All the latest equipment we used performed well. In particular, the sound is extraordinary great!"

"I actually feel relieved," said Mr. Chiba. "I was very surprised for more visitors than I had thought came here. I don't know the style or our role yet, but we'd like to involve in this event next year and after that."

"It was a challenge we have to build from scratch," Mr. Ishibashi said, "so I'm satisfied for what we have achieved. The visitors here knew they could also experience such performances in Inter BEE. I'm glad if they come again next year."

Interview with Rhizomatiks crews

This event, in which Inter BEE and Rhizomatiks collaborated, was held as the 50th anniversary of Inter BEE. The project was set up based on an entirely new concept that defied existing conventions of exhibition: full demonstration of brand-new equipment by Rhizomatiks, which means creators adopting various state-of-the-art technologies to their works show their performance using latest technologies and know-hows. All equipment used in the event was provided by the exhibitors of Inter BEE. The project started in May and was announced to exhibitors in an explanatory session in July. Rhizomatiks then visited more than ten manufacturers that had proposed the provision of equipment to try and choose equipment that matched their performances. Hidenori Chiba, a Rhizomatiks producer, and Motoi Ishibashi, a creator from the same company, talked about the aim of the project in an interview before the event.

■ New development toward the future

Mr. Chiba talked about why they took part of the project:

"Inter BEE told us that they would change their minds on this 50th anniversary, and this year, they'd like to create an event in which visitors could enjoy not only equipment exhibition but also content. In addition, a wide variety of equipment for creating content is exhibited in the event. We thought an idea to create content using the equipment was very interesting. So we decided to join the project."

Mr. Chiba said that it was "an unusual case among jobs we have undertaken," because it was not existing entertainment, advertising, or their own artwork they wanted to spread.

"I also feel the significance since this project will be new development that leads to the future," said Mr. Chiba. "I believe this event also implies a mission we have to develop for the future. A shift from conventional exhibition just showing equipment to exhibition promoting content is beginning to emerge in the United States. We got an offer in such circumstances, so we wanted to help this movement."

Mr. Katsuyuki Motohiro
Director & Producer
Planning Office,
Production I.G., Inc.

Ms. Kiki Sugino
Actress,
Film Producer & Director

Promoting movies through a film festival
Various forms of film production in Japan and Asia

Held by TBS, DigiCon6 is a digital contents festival encompassing nine Asian countries (Japan, China, Taiwan, Hong Kong, India, Korea, Malaysia, Singapore and Thailand). In 2014, Digicon6 awards were announced on November 14, the week before Inter BEE was held.

Under the theme of "Creativity Made in Asia," we discussed the future of film production in Asia with Mr. Katsuyuki Motohiro, who served as a judge at Digicon6, and Ms. Kiki Sugino, who served as a head judge. The two guests also discussed their personal experiences.

Special film production environment in Asia

Ms. Sugino is involved in film production in a variety of ways. After making her debut as an actress in 2005, she began working as a film director in 2009 and then as a producer. Ms. Sugino began working in film from a desire to do something different from others people.

"Instead of focusing on Japan when making films, I wanted to be more conscious of overseas audiences," says Ms. Sugino. "Acting on this desire, I participated in film festivals in Hong

Kong, Pusan and Cannes. To start, I studied the ways in which Asian people create films and I increased my professional network. Usually, I like to spend time alone by myself watching films. However, when traveling overseas, I feel lonely in an unfamiliar atmosphere. That feeling of loneliness inspires me to become friends with other foreigners visiting the country."

Ms. Sugino's first joint work was the film Magic and Loss, done together with Malaysian director Lim Kah Wai. Ultimately, people from seven different countries were involved in the film, including Chinese staff members and a cameraman from Hong Kong. However, at first, Ms. Sugino was unsure of how to proceed when producing a film in Asia.

"Despite being on a tight filming schedule of only two weeks, the cameraman would come to work two or three hours late. When I asked why he was late, he told me that his pet was sick. At first, I was really annoyed, but I found the whole situation so absurd. After a while, I found myself enjoying all of the unexpected aspects of an international production."

Ms. Sugino's experience shows that it takes a lot of understanding to produce a film in Asia. She also said that the laid-back atmosphere had many benefits.

"Everyone changes their own job titles and works together as equals to create a film. Usually, if a director has a friend who is directing another film, he will work as producer for his friend or will act in the film. Fulfilling a variety of different roles creates a force which spurs the production of a film."

Finding connections which are unique to a film intended as entertainment

Mr. Motohiro has directed numerous hit programs and movies including the Bayside Shakedown series and SP. Unlike Ms. Sugino, Mr. Motohiro focuses on local film festivals. For example, he served as director of the Sanuki Film Festival in his native prefecture of Kagawa.

"I make films as entertainment, so I personally am not invited to film festivals," explains Mr. Motohiro. "That's because each country and region has their own entertainment films. However, it is my idea to assemble people who make entertainment films and other respected people involved in film so that we can enjoy watching and discussing films together."

"The 2015 Sanuki Film Festival will be held from February 13 to 22. About 50 guests will attend the festival, ranging from young directors to great masters. After screenings of films, discussion will be held. Mr. Motohiro is involved in all aspects of the festival, from planning the program to fundraising."
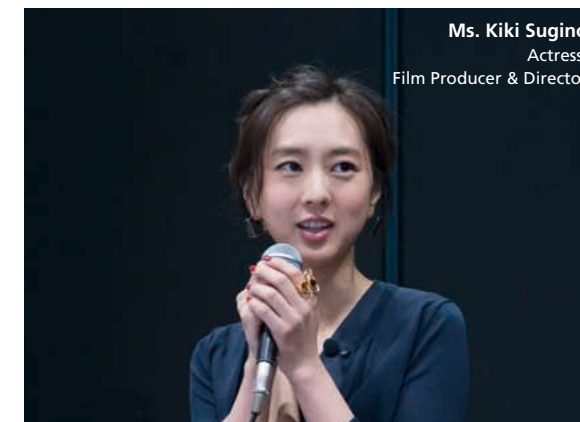
"I invite people whom I am interested in meeting but have never had the chance. There is a Young Cinema division and a competition for films made by ordinary citizens. A business chance is created by involving many different people. Perhaps it's time that I left filmmaking to the younger generation and concentrated on directing festivals!"

The most important thing when making films

According to Mr. Motohiro, he sometimes has to produce films which he isn't interested in making. In such cases, he concentrates solely on creating film which will bring joy to audiences and people investing in the production.

"Filmmaking is a business, so we can't just make films that we like. It really forces me to think. On the other hand, creating a film of your own free design also requires a tremendous amount of energy."

Of course, there are some cases in which Mr. Motohiro can create films freely. One example is The Curtain Rises, a film which portrays high school theatre and will be released on February 28.

"It's a low budget film. Initially, there weren't many investors; however, when I continued to carry out my plan, I started to get some help and was able to produce the film freely. The singers from the Momoclo (J-POP girl's group Momoiro Clover Z) contributed a lot of their time. When creating a film like this, I can't help falling in love with all of the characters. To me, that is when I really feel the essence of filmmaking."

From left:
Mr. Tetsuo Ohya
Chief Executive Officer,
Technical producer
Picture Element Inc.

Mr. Hideo Yamamoto
Cinematographer

Mr. Seiji Saito
Director,
DI Producer & Color Grader
Picture Element Inc.

From left:
Mr. Jun Urata
Retoucher
Hakuhodo Product's Inc.

Mr. Ryuichi Kataoka
Chief Executive Officer
VONS Pictures Inc.

Mr. Kento Kaneko
Producer
foton Inc.

Mr. Yasushi Kawamoto
Chief Editor of COMMERCIAL PHOTO

4K is coming. What expression will be born from increased image resolution?

The journal Commercial Photo deals with visual technology related to advertising. One technical theme which is related to both photography and film is resolution of 4K and higher. We held a discussion regarding issues being faced and creative measures being taken in the fields of filmmaking and advertising. The discussion was moderated by Mr. Yasushi Kawamoto, chief editor for *COMMERCIAL PHOTO*.

Digital replication of film expression

The discussion featured participation from guests Mr. Hideo Yamamoto, who has served as director of filming for numerous movies, Mr. Seiji Saito, who workers as a color grader, and Mr. Tetsuo Ohya, who is involved in VFX. The discussion focused on the challenge of digitally replicating the color and light expression of film.

Mr. Saito first felt the desire to preserve the look of film around the time that FUJIFILM announced it would be stopping production of movie film. He began trying to create support for replicating film expression by using the FUJIFILM's IS-100 system for digital image production color management.

Mr. Saito expanded on the IS-100's initial function of matching camera colors when multiple cameras are being used. Of course, this matching is not based on appearance; rather, it is performed by transferring FUJIFILM's actual characteristic curve onto the IS-100.

"I didn't start this project simply for the sake of nostalgia," explains Saito. "FUJIFILM spend dozens of years to crate this technically superior color and curve. I feel that it is extremely important to preserve this asset."

The resulting function is actually used by Yamamoto when filming.

"Instead of simply combining FUJIFILM's negative with FUJIFILM's positive, it is now possible to combine FUJIFILM's negative with Kodak's positive," explains Mr. Yamamoto. "Such a thing wasn't possible before."

The reason why such technology is required is that when performing digital filming, there is difficulty caused by not being able to see the color index which is the ultimate goal. In the case of film, the desired tone, expression of light and appearance of color are considered when selecting a film. However, in the case of digital production, there are simply unique camera characteristics which do not contribute to a final look.

"When we used film, our goal for the synthesis results was to match the color of a certain film," explains Mr. Ohya.
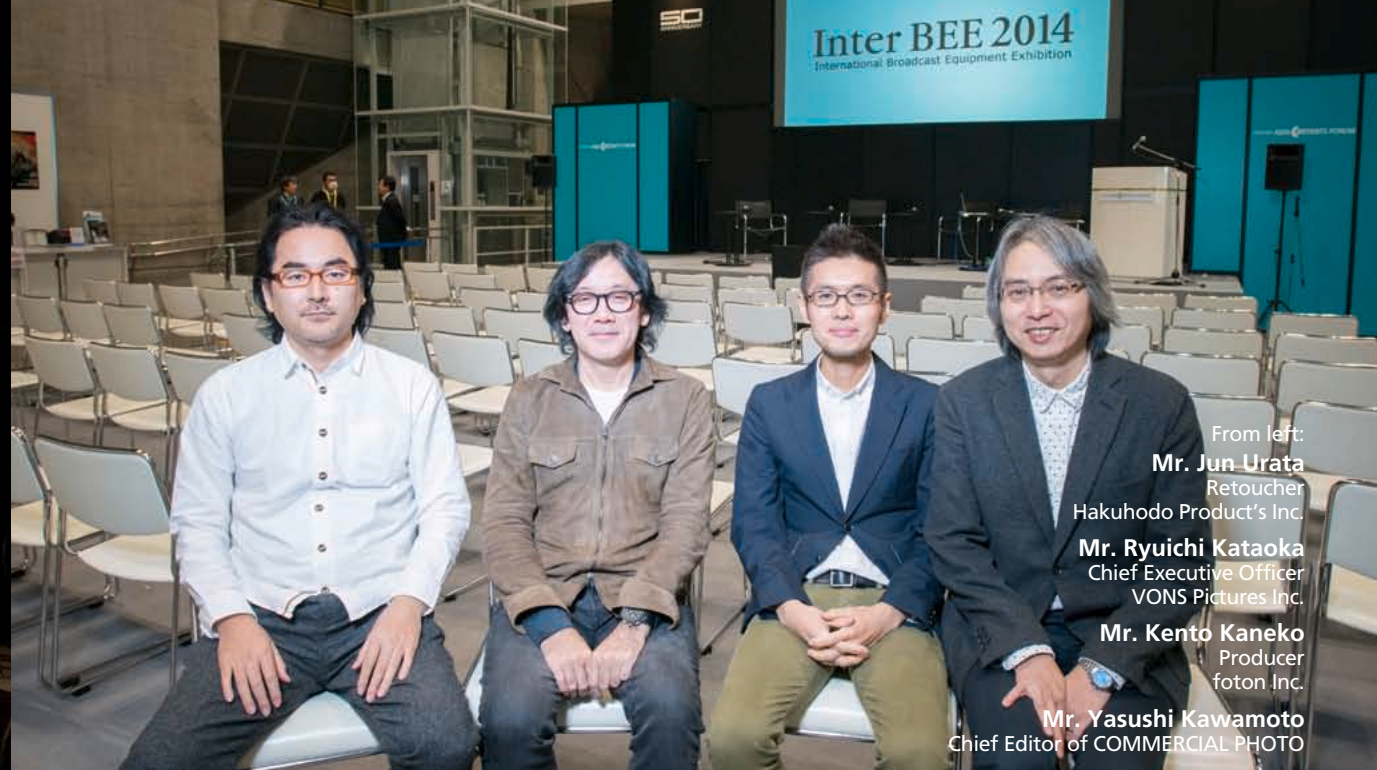
"However, in the case of digital production, it is difficult to wait for the image shown at the final screening. It's impossible to tell whether the color seen on the screen matches the finished product which is desired by the director and cameraman. We are now able to focus on a certain look which guides us towards the desired expression, thus giving us an easy-to-understand goal."

The ability to digitally express the look of film makes it possible to immediately view results when filming.

"We can use this technology as a starting point for constructing the world view of our work; for example, the kind of tone that we want to use," explains Mr. Yamamoto. "Furthermore, in addition to the director and cameraman, it is important for other staff to be able to see how the color of props and makeup appears. By understanding our goals from filming to post-processing, it makes it easier to focus our efforts."

During the discussion, the IS-100 and RED Dragon 6K were combined to test what kind of expression can be produced. A report was issued on the results. Resolution was maintained even when zooming to 300%. This technology provides a glimpse of new possibilities in image expression.

Using 4K to fuse graphics and movies!?

The next discussion featured participation from Mr. Kento Kaneko, who is involved in advertising graphics at foton Inc., Mr. Ryuichi Kataoka of VONS Pictures Inc., and Mr. Jun Urata of Hakuhodo Product's Inc. The discussion focused on how photography is being effect by high-resolution images of 4K and higher.

In the field of graphics, retouching is performed in order to further heighten the effect of striking still photography. All three of the guests are involved in retouching. The introduction of 4K has produced resolution which approaches that of photography, leading to the fusion of still photography and movies. For example, images are cut from 4K film and retouching is performed for 4K video.

foton began in-house development three years ago. The company performs retouching for 4K images and creates 120-second commercials from images photograph using a still-image camera of 80 million pixels. At VONS Pictures, graphic images are cut from 4K video, hinting at the possibilities of Digital Signage featuring new expressions of about 1.5 seconds. Hakuhodo Product's also performs retouching of 4K images.

Once only thought to be possible for still images, retouching is now starting to expand to video. Productions and image creation which were once unique to graphics are now being applied to video.

"The difference between images and graphics is fading away," says Mr. Kaneko. "Normally, when creating advertising, images are created with first priority given to graphics. The graphics are then transformed into commercials and other images. There is now the possibility of both works being performed by the same staff members."

"Conventionally, art directors are responsible only for graphics," explains Mr. Kataoka. "However, the advent of 4K will lead to more art directors overseeing the production of images."

"High-definition image production will bring about an era in which the sensitivity and craftsmanship of individual creators are reflected," states Mr. Urata.

Inter BEE & Japan Post Production Association
First step toward a new challenge

As a new project for this year, Inter BEE and the Japan Post Production Association (JPPA) joined forces to create an opportunity for conveying current trends of image technology and expression in post-production.

We established a JPPA Pavilion next to the Cross Media Theater, which is the focal point of the Asia Contents Forum. Furthermore, as JPPA Day, all of November 20 was devoted to presentations given by JPPA member companies.

Booths were operated by a total of ten companies and groups, including JPPA. Presentations were given by a total of 11 companies and groups.

A leading role in implementing this project and organizing members companies was fulfilled by Mr. Yoshinori Takeda, managing director of the JPPA member company Digital Egg, Mr. Naoya Takei of Pyramid Film, and Mr. Kunihiko Shibahara, deputy secretary-general at the JPPA.

From left:
Mr. Kunihiko Shibahara
Deputy Secretary-General
Japan Post Production Association

Mr. Naoya Takei
Division Director, PTHREE
Pyramid Film Inc.

Mr. Yoshinori Takeda
Managing Director
Digital Egg Inc.

Uneasiness during initial planning and unexpected responses from member companies

The story began in early spring of 2014. When formulating the plan and distributing information on booths and presentations to JPPA member companies, some worried that there would only be a few applicants. After all, this was the first such project and no prior indices existed. However, the response was greater than expected. Indeed, some companies even had to withdraw due to a lack of booths.

"It seems that people working in the field of post-production wanted such an opportunity to give presentations," reflects Mr. Takei. "In addition, last year's problem of a worker shortage also contributed to the large number of participants. The opportunity to assist in sharing information on post-production companies was an extremely interesting project even in terms of recruitment."

"We had created an opportunity for promotion and recruiting booths at past events," says Mr. Takeda. "However, only about two or three JPPA companies operated booths at that time. The recent event featured nine booths of JPPA companies, which is three times the previous amount. We ask companies operating booths to also give presentations. However, some companies who weren't able to operate booths wanted to just give presentations. As a result, we had a very full program featuring 11 different presentations."

"I was almost surprised by the eagerness and intensity of companies which operated booths. The whole event was filled with liveliness like never before. Although each company had only 20 minutes to give a presentation, each presentation was packed with a variety of interesting content. Companies also took the presentations very seriously. There was even one company which spent five million yen to produce original contents."

"I hope that this intensity will be conveyed to university students and consumers. Then, we will be able to hold an even larger version of the event again next year."

Presentations and booths reflecting the uniqueness of each company

Six of the presentations dealt with 4K. NTV Technical Resources Inc. discussed the current state of 4K when filming television dramas. Tokyo Laboratory Ltd. gave a presentation on combining 4K and film, Q-TEC Inc. discussed 4K evaluation systems, and Panasonic Visuals covered its in-house 4K image solutions. Furthermore, McRAY Corporation produced and released an original movie for which look management was performed using multiple 4K film devices with different looks. EIKO gave a demonstration from 4K RAW filming until finished production.

4K places a heavy burden on post-production. However, the presentations clearly showed how each company is utilizing its own unique characteristics to organize a production system.

Other presentations included Digital Egg Inc.'s discussion of subtitled TV commercials. The presentation included the use of sign language and conveyed the difficulty of exact control for subtitle timing due to performance differences in receivers. Furthermore, Tokyo Sound Production Inc. talked about the workflow for the daytime drama Seibo Kiyomi Monogatari, while Digital Garden Inc. gave a presentation on AR production for the Nissan X-Trail event held in Chengdu, China.

What Is Being Required of VFX and Where Is It Headed? What Foreshadows New Developments?
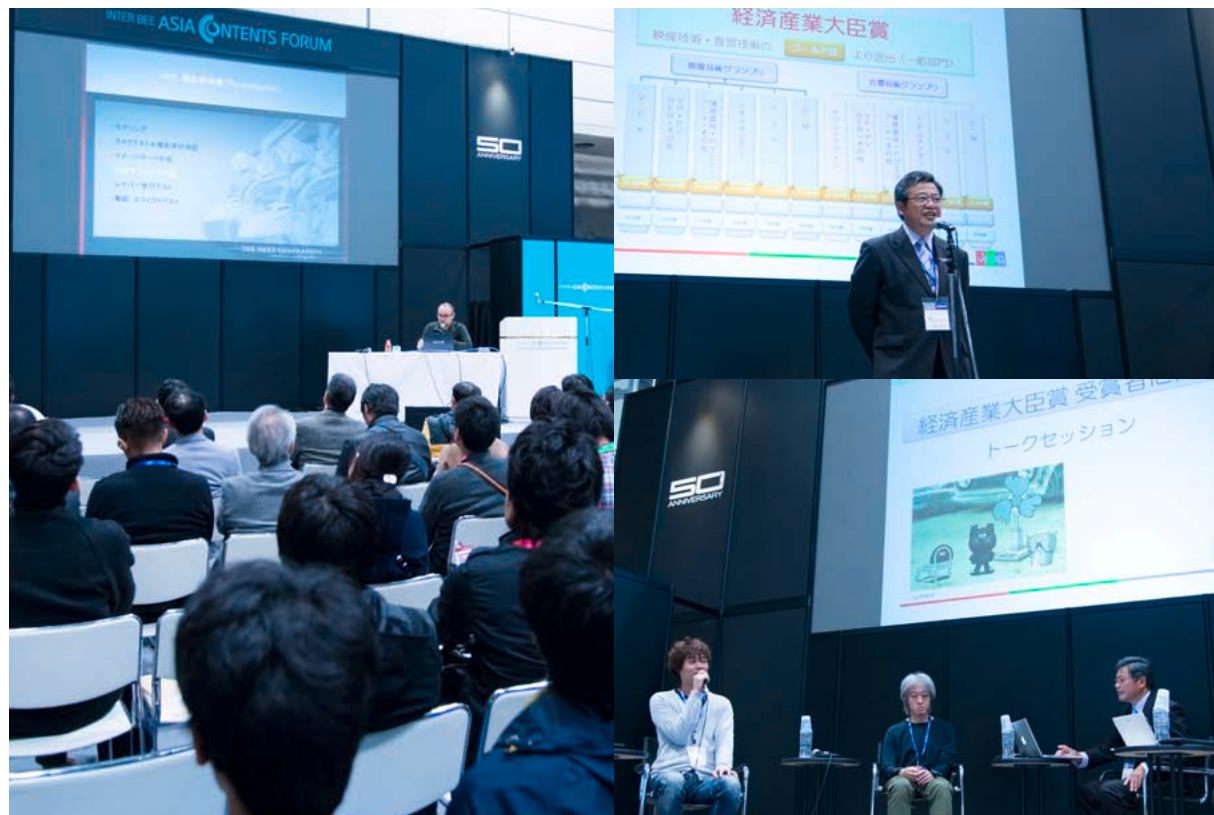
Although all of the presentations given on JPPA Day were highly successful, the greatest attention was attracted by Omnibus Japan Inc.'s presentation entitled "The Next Generation PATLABOR: From Filming to CG Synthesis." In addition to a title which was familiar to main creators attending the event, the presentation focused on robots realized through computer graphics. There was high interest in the VFX workflow.

"This was the first year for companies to give presentations, so it was kind of a trial-and-error process," reflects Mr. Takei. "I expect even more impressive presentations at next year's event."

Each company's booth was linked with its presentation. In addition to viewing images, attendees could speak directly with creators and experience AR. Each booth reflected the craftsmanship unique to that company.

A new venue for announcements by JPPA

Another new feature of the event was a presentation on award-winning works of the JPPA Awards. The JPPA Awards recognize technologies used in visual products such as television programs and commercials.

A presentation was also given by Mr. Sukeyasu Mochizuki of IMAGICA, which won the 2014 METI Prime Minister's Award for the film Golden Time.

"There are very few opportunities for conveying information on post-production work," notes Mr. Takei. "It is very meaningful that we were able to hold such an event. I hope to build upon our success as we look forward to next year."

In movies and TV programs and in many other media, VFX is now becoming commonplace. As a result, VFX in itself is no longer a selling point. We are entering a new stage. How will VFX evolve? What will be asked of it? We asked Mr. Eric Roth, Executive Director of VES (Visual Effects Society)—an institution for information on and advancement of VFX for its professionals, based in the U.S.A. and with members in 32 other countries around the world—and Mr. Jeff Kleiser, a VFX supervisor for many major Hollywood films since the movie *TRON*.

Focusing on Strength in Asia

VES was established with the goal of global inter-company and international cooperation among various VFX professionals, including not only artists but directors and producers.

Its aim is to facilitate the sharing of each member's knowledge and information, aiding the development of the entire VFX industry. Each member can use this shared knowledge in their own work and contribute to fostering new talent.

VFX is no longer limited to feature films and television, but is involved in animation, games, web contents and all fields having anything to do with video. It is also being produced around the world in various countries. To connect all these elements to generate new business opportunities is another aim of VES.

Currently boasting almost 3,000 around 2,700 members and being centered in the U.S.A., it has sections in Los Angeles, San Francisco, New York, Vancouver, Toronto, Montreal, London, Australia, and New Zealand. They hold screenings and seminars regularly to promote learning, and additionally have established the VES Awards and hold an Awards Gala annually.

Many of these activities are driven by the work of VES members who volunteer their time and energy to help the organization grow.All these vigorous activities are done voluntarily. Members can join committees, task forces or local sections to help create activities and shape the future of VES worldwide. come up with what VES makes possible, and take initiative inactivities.

Mr. Eric Roth
Visual Effects Society
Executive Director

Mr. Roth says he is keeping his eyes on Asia: "I feel the future is bright for Asia, in all the areas of human resources, talent, and education. Japan is overflowing with talent. I would love to establish a section there to further the development of VFX." To that end, VES has been working on some Japanese translations. However, a section requires at least 50 members, and the current number is a little more than 20. Requirements for membership are to have been working in VFX-related positions for at least five years, and to be endorsed by two VES members. If these challenges can be met, he says, there is a possibility of fresh activity in VFX in Asia.

VFuture requirements: Areas beside technical skills

"Storytelling will become important" in the further development of VFX, according to Mr. Kleiser. He founded a visual effects company, Kleiser-Walczak, with Diana Walczak in 1978. After working on numerous Hollywood productions such as *TRON* and *X-MEN*, he founded Synthespian Studios as its CEO. He is active as a VFX supervisor.

Mr. Jeff Kleiser
Visual Effects Supervisor CEO
and Cofounder,
Synthespian Studios

Mr. Kleiser notes that today, VFX is being demanded on an increasingly tighter schedule between order and delivery. Contributing to this is the fact that the cost of animation is declining, due to new technologies and tools which have created an environment where even young people can create VFX with ease. On the other hand, higher resolution is required and more effects are requested, increasing in complexity.

For this reason, pre-production is becoming remarkably more important. Recreating the director's vision on the computer beforehand for previsualization saves much time, allowing more work on the final production.

This importance was impressed on Mr. Kleiser especially as he worked on Ra.One. That film featured many noteworthy VFX, such as a human body rendered by tiny cubes. However, "It was shot in India, but without any advance planning. Of course, that resulted in natural-feeling footage, but it was a nightmare for us as we did the VFX."

In this environment, he feels that films can only distinguish themselves by using the power of content to involve the emotions.

Background to new hits produced from a specific women's viewpoint

As a new approach of the ASIA CONTENTS FORUM, a "Woman's Session" focusing on women working in the video industry was held with Ms. Sachiko Fumoto, Operating Officer of Nikkei BP Institute of Consumer Trends, as moderator. In the first session, Ms. Mami Sunada, a filmm director, related her long career path to establishing her current position in the industry. In the second session, Ms. Hiroko Osawa from Nippon Television Network Corporation and Ms. Yukiko Nagayama, from Tokyo Broadcasting System Television, Inc. (TBS) reported the background to the hit contents produced by TV stations.

A long and winding road into the movie industry

It was in the higher grades of elementary school that Ms. Sunada says she first felt like being involved in movies. In those days, she filmed a wide variety of scenes with a household camcorder, and this experience strongly increased her determination to enter the field.

She was a keen member of her junior and senior school drama clubs, and at university, she joined a film circle making and editing documentaries; in addition she also worked as assistant to Ms. Naomi Kawase, a movie director.

Despite such a promising start, there was no way ahead after university. "I had no idea how I could enter the movie industry after graduating. So I gave up and entered an IT-related company, but I couldn't forget the excitement of movies, so I started to think of a career change," says Ms. Sunada.

Her first step was to directly approach and talk to the director, Ms. Kawano after the director's talk show; this resulted in her joining her staff. Later she apprenticed herself to film director Shunji Iwai, and went onto apply the same talk show technique on film director Hirokazu Koreeda. This time she waited for the director in his talk show to have her face remembered and sent a letter, which resulted in her again becoming a staff member.

It was through such head-on approaches that she entered the movie industry, but still she couldn't see the way to the next step. A turning point came with her father's struggle against cancer. When she thought that he wouldn't last much longer, she filmed him with her camcorder knowing in her heart "I have to film this at any cost."

Ms. Mami Sunada
Film director

Ms. Hiroko Osawa
Producer and Deputy Manager
in charge of Information and Culture Department,
Nippon Television Network Corporation

Ms. Yukiko Nagayama
Manager in charge of TV Programming Department,
Tokyo Broadcasting System Television, Inc.

Moderator:
Ms. Sachiko Fumoto
Operating Officer of Nikkei BP Institute of Consumer Trends
Ex Nikkei Woman Publisher

Ms. Sunada says, "When I really looked at the moment my father died, I was lost in the wonder of a person disappearing from this world, rather than the grief of losing him. To answer a question that has no answer, I shut myself up in the house and started to edit what I had filmed."

When she showed the video to Mr. Koreeda, after a long silence he said, "I think this can be a movie." This started her career as a movie director.

THE KINGDOM OF DREAMS AND MADNESS, was the movie she directed next; it is a work in which she filmed the making of The Wind Rises by STUDIO GHIBLI. Being a busy film set, it was difficult for any of her staff to be on site with her, so she filmed alone and just kept her video camera running.

"I never knew if they'd throw me off the set, for being a nuisance, so I really wanted to run the camera even for just an extra minute longer. But then as I was there as the director, I thought it was meaningless, if I couldn't shoot at the moment I felt I should film." Despite such severe restrictions and being able to only shoot for short times, she successfully completed her movie.

Ms. Sunada also says that she does not actually like running her camera because she feels as if she is exploiting or taking something from the people she films. "Maybe, my desire to film the important moments of that person is conveyed to them. I want to film something I will be able to see by the accumulation of daily effort," says Ms. Sunada.
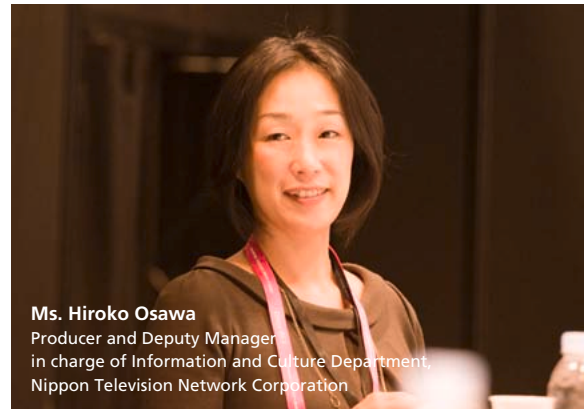
Such a sensitive and delicate approach contributes to her creating videos very unique to her.

What is important is
what everyone can agree upon

On TV program production sites many programs based on the sensitivity of women have been created.

mama mo como, (Both Mothers and Children) is a TV program broadcast by the Nippon Television Network Corporation and as the name implies is enjoyed by mothers with children. The idea of the program occurred to Ms. Osawa, producer of the program, when she had trouble in her broadcasting station building. For example, after returning from maternity leave when she went to work with her baby, there was no place for a diaper change, and it was difficult to move with a baby carriage.

She started an in-house campaign for installation of baby beds, gained support from fellow female employees with children, and instituted a room where children can take a rest when an event is held. It was such activities that led her to thinking if her experiences could be turned into a program.

"Changes always visit women through their daily lives. They wonder if they should pursue their careers or focus on a satisfying home life. It's very difficult to choose. But if you worry too much, you won't be able to take any step forward. So I say to myself, "Do it," says Ms. Osawa, laughing.

On the other hand, Ms. Nagayama from TBS says that she does not feel any gender difference on drama-creating sites because creation staff consisting of men is often trying to creating a drama from the viewpoint of women, or women from the viewpoint of men. Instead, she is deeply conscious of the target viewers. For any TV program she is in charge of as department manager, she carries out a variety of tasks. For example, she discusses the impact and ease of understanding the title of a program with her subordinates, and uses the Web to ask 200 women questions about the title so as to better understand trends.

She also gives a preview of any drama she has produced and distributes questionnaires to the viewers. In response to such comments as "Difficult to understand," she re-edits the program before it is broadcast.

Both Ms. Osawa and Ms. Nagayama say that what men do not notice is important.

"From their childhood girls do learn the sort of manners and behavior, which encourage them to be more conscious of others. They don't suggest a right answer but an alternative that can convince all the people around. I think experiences like mine will lead to the creation of a program that satisfies everyone," says Ms. Osawa.

"This job requires high-level communication skills, so it is important to create an environment where you stay close to others so that they can listen to what you say. I think women can work energetically and flexibly," says Ms. Nagayama.
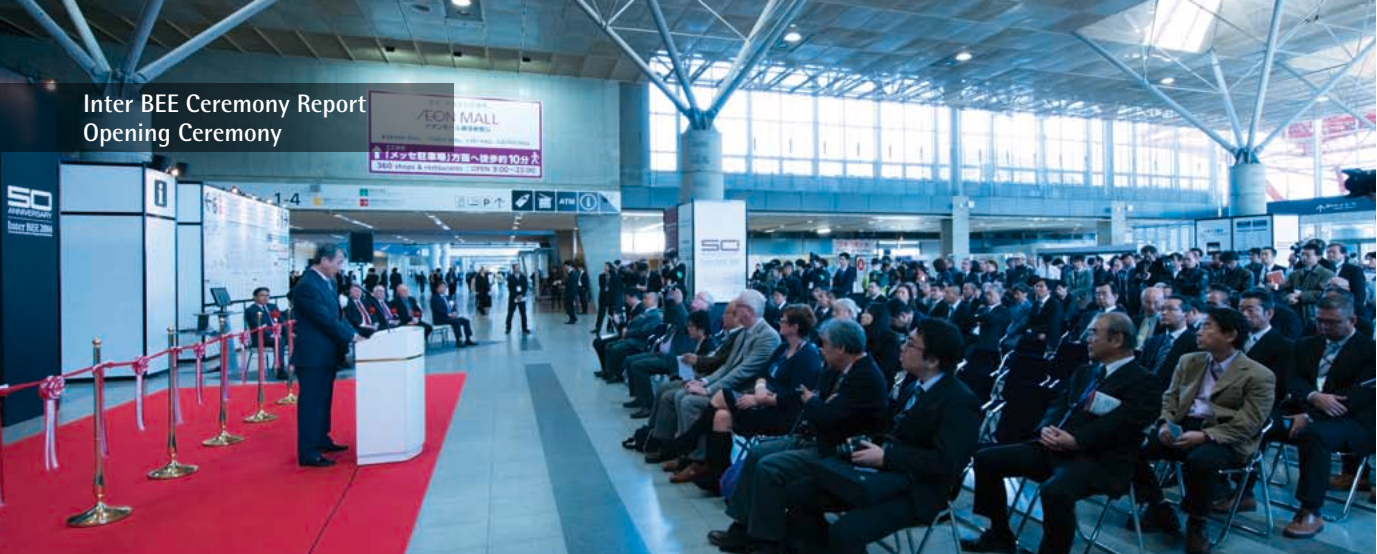
Opening of Inter BEE 2014 to Commemorate 50 Years
Record Number of 977 Exhibitors from 34 Countries/Regions
Expectations for an Effect to Lead to the Popularization of
4K/8K Ultra-High-Definition Video Technology

"Manifestation of the height of the international interest in Japanese broadcasting, video and communications technologies"

The 50th Inter BEE event was held over three days in Makuhari Messe in Chiba from November 19 (Wednesday), 2014. Prior to the opening of the event at 10:00 on the first day, an opening ceremony was held in the Entrance Hall on the second floor from 9:40. To begin, Naoto Nagao, Executive Director of the Japan Electronics and Information Technology Industries Association, gave the following greetings on behalf of the organizers.

"As everyone knows, Inter BEE has been held annually since the first event in 1965 and we are now celebrating our 50th anniversary this year thanks to all of you. Inter BEE has walked hand-in-hand together with the history of broadcasting. We have been supported by the hard work and achievements of relentless technological innovation from all the companies who have exhibited at our event, as well as by the passion toward audio and video production from all users. We have, therefore,

developed into a place for technological innovation and information exchange. I would like to take this opportunity to express my gratitude to everyone for their support.

A record number of 977 companies will be exhibiting at this Inter BEE 2014. Using a total of six halls, one more than last year, these exhibitors will be showcasing the highest level of products and services in the world. Of these exhibitors, 543 companies come from 33 countries and regions overseas – the largest number on record. I think this is a manifestation of the height of the international interest in Japanese broadcasting, video and communications technologies. Inter BEE is scheduled to welcome a wide range of 35,000 users over these three days. I hope this Inter BEE event plays its role as a place of information exchange and business creation and that this opportunity is effectively utilized by all our exhibitors and everyone in the venue to obtain great results."

Guest taking part in the ribbon cutting ceremony (from left)
Mr. Haruhiko Kasuya
Chairman, Inter BEE 2014 Organizing Committee
Mr. Olimpio Jose Franco
President, SET
Mr. Peter White
Chief Executive, IABM
Mr. Akihiko Miyamoto
Director of the Information Policy Division,
Commerce and Information Policy Bureau,
Ministry of Economy, Trade and Industry
Mr. Katsuya Watanabe
Deputy Director-General,
Ministry of Internal Affairs and Communications
Mr. Sam Matheny
Executive Vice President and Chief Technology Officer, NAB
Mr. Peter Owen
Chairman, IBC Council
Mr. Hisato Nagao
Representative Director,
Japan Electronics and Information Technology Industries Association(JEITA)

Mr. Katsuya Watanabe
Deputy Director-General of the Ministry of Internal Affairs and Communications

"The market related to the ultra-high-definition video technologies led by broadcasting will reach 36 trillion yen in 2020"

Mr. Katsuya Watanabe, Deputy Director-General of the Ministry of Internal Affairs and Communications, participated in this ceremony as a guest and began the congratulatory addresses with the following to celebrate the 50th anniversary of Inter BEE.

"Inter BEE is celebrating its 50th anniversary this year. During the past 50 years, Inter BEE has made significant contributions to the development of Japanese society and industry, as well as to the development of the world. I would like to express my most sincere respect to the great efforts of all the relevant organizations on the occasion of Inter BEE 2014."

Mr. Watanabe then spoke of the importance of the "application of broadcasting technologies" in the growth strategy of Japan. "Japan has various growth strategies, such as our IT strategy. However, among these, the application of broadcasting technologies is positioned as the most important. How broadcasting technologies are deployed in the future is truly a major challenge to work on while looking toward the Olympics in 2020 from now on." With "4K and 8K having the most importance" among these, he then positioned that "how to make the world of ultra-high-definition video represented by 4K and 8K and what prescription or actions to take to achieve this as the challenges which must be tackled by everyone in the future."

On top of that, Mr. Watanabe touched upon the 4K/8K Roadmap Meeting and spoke about the fact "Channel 4K" broadcasting began on CS broadcasts in June with an intermediate summary made in September. He then spoke about this summary. "The aim is to start practical 4K broadcasting in 2015. We are then looking to start 8K trial broadcasting from 2016 with a view to implementing practical broadcasting by 2018. Furthermore, the report concludes we should work toward building a society in which it will be possible to view the Tokyo Olympics and Paralympics in 2020 in the ultra-high-definition video of 4K and 8K. It is estimated that there will be 27 million 4K television by 2020. We must also consider an environment in which more than half of households in Japan can enjoy 4K broadcasts." He said this to emphasize the necessity for the expansion in broadcast programs and contents to meet the growth and pace of the television industry.

Moreover, Mr. Watanabe also pointed out the following. "In addition to simple broadcasts, broadcasting technologies have an extremely wide scope of applications such as health care, education and security by utilizing ultra-high-definition video technology." He then tied this to the following. "Broadcasting technologies have been positioned as one of the largest growth areas with a market size that will reach 36 trillion yen in 2020. We would like to work toward this together with the efforts of all stakeholders."

Mr. Akihiko Miyamoto
Director of the Information Policy Division in the Commerce and Information Policy Bureau of the Ministry of Economy, Trade and Industry

"Exchanges between different companies, fields and industries produce new ideas and applications"

Mr. Akihiko Miyamoto, Director of the Information Policy Division in the Commerce and Information Policy Bureau of the Ministry of Economy, Trade and Industry, first gave the following congratulatory address. "Inter BEE, which celebrates its milestone 50th anniversary this year, has contributed to the development of the broadcasting culture and media industry through presentations on state-of-the-art technologies and the confluence of a wide range of stakeholders. I would like to again express my respect for the efforts of all people involved in this at the opening of this event."

Continuing on from this, Mr. Miyamoto then pointed out the following. "In recent years, broadcasting has been subject to extreme changes with the introduction of high-definition and ultra-realistic 4K/8K televisions, new viewing formats such as smart televisions that fully link broadcast programs and the Internet and the appearance of new value." He then talked about the potential of applying 4K and 8K ultra-high definition technologies in a wide range of fields. "It is, of course, important to transmit brilliant video by leveraging the features of 4K/8K such as high definition and ultra-realism. However, people are seeking applications in new fields beyond traditional boundaries including applications in the medical care field in addition to communication and audio technologies. Moreover, expectations also rest on 4K and 8K to contribute to solving social issues in relation to disaster prevention, safety, education and science."

In addition, Mr. Miyamoto expressed his hope for Inter BEE to become a place for wide-ranging information exchange in the fields of video, communications and broadcasting. "New ideas come from exchanges between people involved in different companies, fields and industries. This leads to the birth of applications in new fields. In that sense, I hope Inter BEE contributes to the creation of opportunities for new encounters like this."

Finally, a ribbon cutting ceremony took place following on from the opening declaration by Haruhiko Kasuya, Chairman, Inter BEE 2014 Organizing Committee .

Inter BEE Reception: Celebrating Our 50th Anniversary Toward a New Page for Audio, Video and Communications Professionals Exhibition

Executives of the Japan Broadcasting Corporation (NHK), commercial stations and exhibiting companies were invited to attend the reception that was held from 18:00 on November 19 – the first day of Inter BEE 2014. This blossomed into a look back of the past 50 years of the broadcasting and video industry with an awareness that Inter BEE is celebrating its 50th anniversary this year. A letter of appreciation was presented at the reception to NEC for their attendance at every one of the 50 Inter BEE events that have been held.
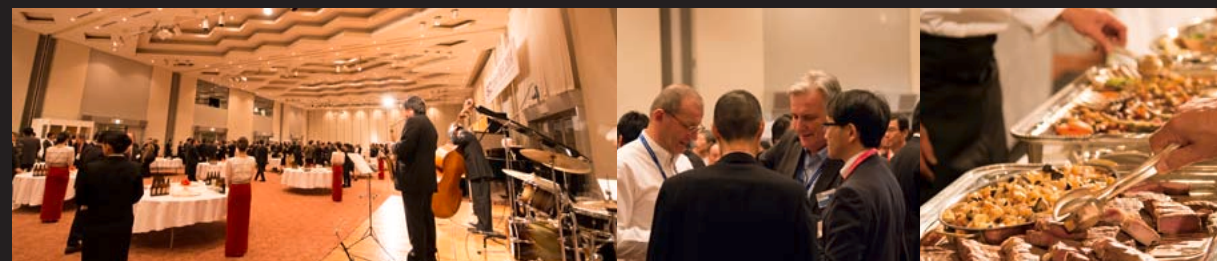
Many Active Displays toward the Sophistication of Broadcasting Services with an Eye on 2020

At the beginning, Mr. Haruhiko Kasuya, Chairman of the Inter BEE 2014 Organizing Committee, stood for greetings and expressed the following as his opening remarks for the reception.

"Inter BEE 2014 will be held as a 'professional exhibition for audio, video and communications' in Makuhari Messe over a three day period from today thanks to the support of the Japan Broadcasting Corporation, the Japan Commercial Broadcasters Association, the Association of Radio Industries and Businesses, the Ministry of Internal Affairs and Communications, and the Ministry of Economy, Trade and Industry. We will be welcoming a great many persons connected to the broadcasting industry and audio/video professionals from both Japan and overseas.

We have held Inter BEE every year since our first event in 1965 and we will celebrate our 50th anniversary this year thanks to all of you. This year, a record 977 companies will be participating at Inter BEE. In addition, there will be 543 companies from 33 countries and regions overseas, so this will be a grand event. We expect to welcome 35,000 visitors by the Friday on the 21st – surpassing last year's attendance of 32,000 people.

The sophistication of broadcasting services with an eye on 2020 will be actively on display in the exhibition venue. Presentations will be held in the International Conference Center by leading persons in audio and video both from Japan and overseas. The latest trends in content technology and lively discussions will unfold. I hope everyone is able to effectively utilize Inter BEE as an opportunity to share information and expand their business to achieve great results."

Toward the Realization of 8K Broadcasting at the 2020 Tokyo Olympics

Mr. Yasuto Hamada, Senior Director and Chief Engineer of the Japan Broadcasting Corporation (NHK), attended the reception as a guest and started the congratulatory greetings with the following address. "The first Inter BEE was held in 1965 – the year following the Tokyo Olympics in 1964. People involved in broadcasting in Japan, including NHK, raised their collective efforts for the Tokyo Olympic Games and worked strenuously toward the television broadcasting of the event. That was a time when broadcasting in Japan was still new and when television broadcasting was also still new. The Tokyo Olympics showed to the world the height of Japan's technical capabilities. For example, they were the first Olympics to be broadcast in color and live satellite relays using geostationary satellites were made possible by the development in Japan of all equipment from camera tubes to satellite relays. That Inter BEE began from efforts to repeat and validate these technical strengths is something that Japan should be grateful for, I think."

Mr. Hamada followed on from this by looking back from 1980 when he joined NHK to the time when he was appointed to Tokyo in 1985 five years later. "I went to Ikebukuro Sunshine City, where Inter BEE was being held, on the Yamanote Line from Shibuya with my work colleagues" he revealed. He then recollected the following. "The year of 1985 was the year when teletext began. After that, broadcasting made a great deal of progress. First there was high-definition broadcasting; then, satellite broadcasting and digital broadcasting." Mr. Hamada then talked about the development of this broadcasting and video technology in Japan. "I think it is the companies and various stakeholders who participate in Inter BEE that are behind the continual adoption and commercialization of state-of-the-art technology in each era."

Finally, Mr. Hamada turned to talking about the 2020 Tokyo Olympics. "I hope that many people are able to enjoy super high-definition broadcasting in 4K and 8K at that time." He expressed a strong willingness to implement 8K broadcasting at the 2020 Tokyo Olympics. "Of course, I hope as both an employee of NHK and as a person involved in broadcasting that many events at the Olympics will be broadcast in 8K and that it will be possible for many people to enjoy competitions with a sense of realism." He then closed his remarks with the following words. "It will not be possible to achieve this without the cooperation of everyone participating at Inter BEE. I would like to cooperate together with you all over these coming six years as we look forward to that day."

Looking toward the Next 50 Years without Being Complacent

Continuing on from Mr. Hamada, Mr. Fusaki Matsui, Senior Managing Director of the Association of Radio Industries and Businesses, rose to give his greetings and started by saying the following about the time at the first Inter Bee event in the year following the Tokyo Olympics.

"The year when Inter BEE started – 1965 – was the year the so-called 'Izanagi economic boom' began. This was the year when the curtain was opened on the period of an unprecedented economic boom in Japan over a five year period until 1970. Social life was in the era of the 3Cs. This is the era when cars, coolers and color TVs were given as the three consumer durables that people wished to buy. Inter BEE started at the perfect time and rode along together with this upward trend." Mr. Matsui continued by expressing that 'both exhibitors and management personnel have had their struggles' in maintaining the exhibition over 50 years. He then said the following. "The fact that this year – the 50th anniversary of Inter BEE – will see the event's greatest number of participants and exhibitors is a sincere tribute to the efforts of everyone."

Mr. Matsui then changed the subject to the standardization of 4K and 8K that is being worked on by the Association of Radio Industries and Businesses. So far, studio standards have been formulated in March 2013 and transmission standards have been formulated in March 2014. Continuing on from this, receiver standards are scheduled to be formulated in December 2014. "There will be a full-lineup of three sets of standards with this. With these standards as the foundation, broadcasting technology will be developed through new technologies and products being supplied to society by concentrating on the ingenuity of each company. In addition to this, there will surely be a great contribution to the improvement of culture in Japan. I hope new technologies and products continue to be created for the development of the broadcasting culture even after 2020." With these words, Mr. Matsui expressed his hopes for technological innovations based on this standardization.

Mr. Matsui brought his address to an end with the following words. "It is said that 'persevering through something difficult makes one stronger.' We cannot be complacent on the 50th anniversary of this event. Instead of being complacent with our short-term goals toward 2020, I would like everyone to also focus their efforts with a view toward the next 50 years as well."

Expectations for New Technology to Support Content Creation

Finally, Mr. Tadahisa Kawaguchi, Chairman of Special Technical Committee in the Japan Commercial Broadcas Association, took over the podium to give the following address.

"Inter BEE made a call to the Japan Commercial Broadcasters Association in 1965 and was held with the participation of 12 companies at that time as a commercial broadcasting technical briefing exhibition. It has now been 50 years since that time. The exhibition has been held every year since then and has become a major event with more than 30,000 visitors. I would like to once again pay respect to the efforts of everyone involved in the exhibition up to now.

I feel that there is an even greater sense of presence here at Inter BEE than last year with a rich variety of sessions, displays on 4K/8K and talks. There are still many challenges when producing and broadcasting ultra-high-definition video content. As a person involved with private broadcasters, I have great expectations for the technological development of all broadcasting equipment and consumer electronics manufacturers in order to produce even more attractive content."

Mr. Haruhiko Kasuya
Chairman of the Inter BEE 2014 Organizing Committee

Mr. Yasuto Hamada
Senior Director and Chief Engineer of the Japan Broadcasting Corporation (NHK)

Mr. Fusaki Matsui
Senior Managing Director of the Association of Radio Industries and Businesses

Mr. Tadahisa Kawaguchi
Chairman of Special Technical Committee in the Japan Commercial Broadcasters Association

Mr. Mitsuo Tsuchiya
Chief Manager
Global Business & New Business Promotion
Broadcast and Media Division
NEC

Exhibition of an "Integrated Television Delivery System" for Next-generation Broadcasting

NEC has expanded over many years into the development and provision of equipment covering almost all areas relating to broadcasting – from program production to delivery. The company continues to have a presence on the frontline even today.

The firm has taken part in every Inter BEE event over these 50 years. This can surely be called the backing of a company that has continued to support broadcasting in Japan.

NEC designed their booth for their 50th Inter BEE event with the theme of "Orchestrating a Brighter World." This booth proposed broadcasting solutions to cover all areas of the broadcasting business such as "information systems," "delivery systems" and "file-based systems" under the assumption of next-generation broadcasting stations mindful of the update to their digital terrestrial core systems.

The company exhibited on the main stage an "integrated television delivery system" that integrates master systems, integrated bank systems and commercial broadcasting systems for updates to the core systems of local stations.

In regards to HEVC, the firm exhibited their 4K/60p-compatible HEVC codec "VC-8150/VD8100" used in the 4K test broadcasting "Channel 4K" which was announced in February of this year and which is being carried out by the Next Generation Television & Broadcasting Promotion Forum and the 2K HEVC material transmission IP codec "VC-810/VD-810" which is currently under development. In audio, NEC exhibited a digital audio mixing console for the first time. In regards to cameras, the company exhibited their compact shoulder-type "NC-H1200P HDTV camera."

Moreover, the company showcased new technology by exhibiting various broadcasting solutions. These included Hybridcast linked to commercials, scoop detection technology using Twitter and image processing technology.

We spoke to Mr. Mitsuo Tsuchiya, Chief Manager of the Global Business & New Business Promotion Broadcast and Media Division in NEC, and Mr. Masataka Onishi, Assistant General Manager of the Broadcast and Media Division, about the aims of this year's exhibit, the reaction they got from visitors and the significance of Inter BEE.

Mr. Masataka Onishi
Assistant General Manager
Broadcast and Media Division
NEC

Proposals for the Optimization and Reduction in Size of Digital Broadcasting Operations in Local Stations

■What were the aims of your exhibition and what was its theme?

Our theme this year was "Orchestrating a Brighter World." This is a part of our "Social Solutions Operations" that we have been focusing our attention on under our 2015 Mid-term Management Plan. This is our business brand message to the world. Our aim is to create a safe, secure, efficient, fair and bright future where it is possible to live even more cheerfully and abundantly by fusing together advanced ICT technology, services and opinions cultivated over many years to solve social issues through "co-orchestration" and "co-creation" with people around the world.

On the main stage, we presented a solution to improve operational efficiency and reduce the size of systems through our "integrated television delivery system" that integrates master systems, integrated bank systems and commercial broadcasting systems at the time of updates to the terrestrial broadcasting core systems in local stations. Moreover, we showcased in our booth the 50 years of history we have walked hand-in-hand together with Inter BEE with panels of the hit products of NEC.

In regards to HEVC codecs, we showcased our 2K HEVC material transmission IP codec "VC-810/VD-810" that is currently under development. Although it is possible to use this

codec at the moment, we aim to put this into half rack size in the future with our final goal being to build this into FPUs. In regards to cameras, this year we exhibited our compact shoulder type "NC-H1200P HDTV camera." This is able to photograph light in the near infrared wavelength band region in addition to the visible light region and is based on our "NC-H1200iR" model that has been equipped with an "IR-PASS function" to increase sensitivity. This is a portable camera that is able to take clear pictures both during the day and at night with enhanced mobility because it is operated by battery and has been equipped with a view finder and handy remote control.

Exhibition of a Digital Audio Console at Inter BEE for the First Time

In regards to audio, we exhibited a digital audio console for the first time. This is a digital audio console that targets live broadcast studios based on delivery system reliability. The feature of this product is the fact the process and shelf configuration is completely duplicated in order to decentralize control of the audio console. This first-in-the-industry dual-duplex configuration improves reliability. Moreover, this also has the major feature that it is equipped with a virtual matrix which uses network audio technology in order to facilitate the manipulation of material selection.

In regards to new technology, we exhibited 4K video stream delivery servers, Hybridcast linked to actual commercials broadcast by the Asahi Broadcasting Corporation, scoop detection technology and image processing technology. This scoop detection technology is a system that promptly detects and notifies you of tweets relating to incidents or disasters that have been tweeted on Twitter. We are already developing a trial version of this and plan to get broadcasters to test this over a period of several months in 2015. Our image processing technology can follow the position of the movement of cameras in real time and cut chroma key. Using chroma key in programs can result in the background appearing unnatural when the camera zooms and pans). Accordingly, we have developed a system using image processing technology that can follow the position of the movement of cameras in real time and cut chroma key. We have jointly developed this system with Kansai Television. Traditionally, expensive products using virtual reality systems have been used, but this can be used easily without the need for sensors with one PC.

Converter to Unify the 4K Color Space

In addition, we showcased our colorimetry (color space) converter, the "VSP-X1000 CC" which supports 4K broadcasting systems. This is capable of converting the "BT.709" HDTV color gamut standards to the "BT.2020" Ultra HD (4K/8K) color gamut standards. "BT.2020" is a video format for program production and international production exchange, so it will be employed in video material exchange between countries such

as at the Olympics. There are products developed with "BT.709" used in HDTV among 4K compatible devices. If these are mixed in with "BT.2020" compatible devices, the colors may vary. We developed this converter to make it possible to use a mix of both of these products.

High Praise for Improvement to Image Quality

■What has been the reaction from visitors?

Many people showed interest in our booth and listened intently to the descriptions of our products. We are extremely grateful for this. Our 4K HEVC codecs are generic versions of encoders used in Channel 4K. These have won a great deal of praise for improving image quality. We were also able to get a variety of opinions in regards to our "integrated television delivery system" that we showcased in our main booth. We believe this will lead to development and proposals in the future. Exhibiting our digital audio console for the first time at this event gave us a fresh response in regards to the showcasing of digital audio consoles by NEC.

50 Years Walking Hand-in-Hand Together with Inter BEE: Growth toward the Development of the Future Broadcasting Industry

NEC wins the "prize for perfect attendance" among the many exhibitors at Inter BEE by having participated in all 50 events. It is possible to call this firm the face of the broadcasting equipment exhibition Inter BEE as a company that has continued to supply equipment relating to all areas of operation in broadcast stations. Inter BEE gave gratitude to NEC and presented the firm with a letter of appreciation at the reception held on the first day of this year's event.

NEC continues to focus their attention on the new era of broadcasting and proactively present proposals to the broadcasting industry. Mr. Masami Aikawa, General Manager of the Broadcast and Media Division in NEC, told us the following.

"Inter BEE is the perfect opportunity to showcase to broadcasting stations, our main customers, the efforts and proposals of NEC. This is a very important exhibition. We will continue to have great expectations for Inter BEE in the future. We have participated in every Inter BEE since the beginning for 50 years and we have walked hand-in-hand together with the history of the event. We take great pride in how we have both grown so significantly and we would like to express our gratitude for this. We hope to continue walking hand-in-hand together with Inter BEE in the future." (Mr. Aikawa)

Toward the Frequency Band Transition:
Type A Digital Wireless Microphone System Prototype
Attention on Large Audio Consoles for
Broadcasting with the Top Market Share

Tamura Corporation showcased their OFDM type A digital wireless microphone system that is being prototyped under the guidance of NHK for their main exhibition. Furthermore, they drew attention for their "NT800" – their top-line large audio console for broadcasting and professional use– and for their "NT660" – an audio console that has been miniaturized while retaining the functions of the "NT880." Tamura Corporation was established as Tamura Radio Store in 1924 and has contributed to the development of the broadcasting industry from its earliest days. The company still has the top market share to this day for professional large audio consoles aimed at broadcasting stations. The firm has also exhibited at Inter BEE, which is celebrating its 50th anniversary this year, almost every time – 49 times. We spoke to Mr. Koichiro Maiki, Executive Officer and General Manager of the Broadcom Business Unit, and Mr. Shinji Yoshida, General Manager of the Broadcom Business Unit, about an overview of this year's exhibition, the latest trends and their requests for Inter BEE.

Mr. Shinji Yoshida
General Manager,
Broadcom Business Unit,
Tamura Corporation

Mr. Koichiro Maiki
Executive Officer and General Manager,
Broadcom Business Unit,
Tamura Corporation

Toward Zero Delays As Far As Possible

■ **Please tell us about your type A digital wireless microphone system, which can be called the highlight of this year.**

We showcased a 1.2GHz band OFDM digital wireless microphone system that is capable of transmitting high-quality PCM audio signals at this exhibition as a prototype. This prototype is strongly multipath and keeps delays to an absolute minimum because it uses an OFDM (orthogonal frequency-division multiplexing) scheme that has also been adopted in terrestrial digital broadcasting. Moreover, it is possible to stably transmit audio signals in environments susceptible to the impact of radio wave reverberation and intermittent interference waves because it comes equipped with an interference resistance mode.

There are two types of wireless microphones that are used in live shows/events, audio operations such as program recording and PAs. These are called type A and type B depending on the frequency band used. Among these, type A wireless microphones require a land mobile radio station license from the Ministry of Internal Affairs and Communications and there is a need for planned operations to avoid interference with FPUs and others. These type A wireless microphones will transition from their current frequency bands to other frequency bands such as white space over a period until April 2019.

Delays, which are a challenge in digitalization, are a major problem in microphones used in stage shows and live events. The major feature of the OFDM digital wireless microphone we have developed is that it suppresses these delays to as close to zero as possible. This is a prototype that has been developed under the guidance of NHK. We plan to release this product in the spring of 2015.

Creativity, Safety and Stability that Supports the Top Share of the Market

Furthermore, there was also a great deal of attention on our digital audio mixing console "NT880" at this event. The NT880 is our flagship model for digital audio consoles. This is a product focused on the sense of the creative urges of creators in addition to sound quality, functions, design and operability. This model achieves high operability through a touch panel while having a rich range of functions. At the same time, it is possible to operate this product intuitively under the assumption of on-site usage. For example, frequently used switches are placed close to hand. Moreover, there is a high degree of stability to deal with operation in broadcasting. For example, this model comes with a function that makes it possible to switch to preparation operations in an instant in the event of a fault.

We have sold a total of 68 NT series digital audio mixing consoles, including the NT880, in Japan and overseas up to the end of October 2014. Our digital audio consoles for broadcast stations have the top share of the market in terms of units delivered in Japan. We think the fact these products combine both the safety and stability necessary in broadcasting operations together with creativity has led to the high praise they have received.

Founding Philosophy: Social Contribution through Products

We also delivered the NT880 in December 2014 to the television broadcasting studio "OHK Machinaka Studio Mirun" that has been established in a shopping mall by Okayama Broadcasting. This shopping mall – said to be the largest commercial facility in western Japan – is called "Aeon Mall Okayama" and is located in front of JR Okayama Station. This is a rare case nationwide in terms of the fact all live broadcasting and recorded program production functions are mobile.

In addition, we displayed wireless microphones that have been adopted in various situations, such as work sites (e.g. plants) and public situations (e.g. railways and schools). The founding philosophy of our firm is to contribute to society through excellent products. Currently, we are expanding our operations in the global field more than ever before, but our philosophy has not changed one bit since our foundation in 1924.

Inter BEE: Toward Becoming the Number One Broadcast Equipment Exhibition in Japan

We had many visitors from overseas up until about ten years ago, but we have been concerned that we have felt there has been a slight reduction in the number of foreigners over the past few years. Tamura Corporation is expanding globally, so it would be beneficial for us if even more people from overseas come to the exhibition. We would like those in the Inter BEE Management Office to aim to make the exhibition the number one broadcast equipment exhibition in the world – not even being beaten by the NAB or IBC. This is our hope for Inter BEE over the next 50 years as a company that has been participating in this event over many years.

Tamura Corporation is starting a new initiative across our entire group. This is the challenge to build an attractive firm as a one-of-a-kind company. New technology makes the lives of people around the world even more convenient and comfortable. The world also seeks ever more advanced new technologies. We aim to realize what can only be achieved by Tamura Corporation because we are Tamura Corporation in the middle of the electronics field that continues to develop remarkably like this. In order to achieve this, we will grow our inventiveness, train our development capabilities and enhance our technical abilities that realize products based on the experience and expertise we have built up over many years.

Mr. Hideo Takaura
Deputy Manager, Sales Department,
Japan Communication Equipment Co., Ltd.

Exhibition of a Newly Developed FM Master Station Transmitter: Rapid Response to the Growth in Demand for FM Synchronous Broadcasting

Japan Communication Equipment Co., Ltd. (a.k.a. "Nitsuki") showcased a display of their newly developed FM master station transmitter and FM broadcast relay transmitters, terrestrial digital broadcasting master station transmitters that are capable of a rapid response for broadcast recovery in the event of an emergency such as a disaster, and UHF transmission equipment. In 1949, this company was established in Setagaya City in Tokyo as Tozaidenki Co., Ltd. and they then started the manufacture and sale of measuring instruments for general wireless communication equipment. The firm quickly began prototyping and researching measuring instruments for television transmission and reception in 1951. The company changed its name to the current Japan Communication Equipment in 1952 and has been manufacturing measuring instruments for broadcasting facilities since then. They won praise in 1959 from NHK for their "cooperation in the production of measuring instruments for broadcasting facilities since the start of television broadcasting." The company has also contributed a great deal to terrestrial digital broadcasting and launched the sale of a small digital relay transmitter in 2006. They have built up a reputation and track record over many years in broadcast wave transmissions and measurements. For example, they also started the sale of terrestrial digital independent broadcasting devices for cable TV stations in 2006. Japan Communication Equipment is a long-established company that boasts a history of 65 years. The firm has set up booths and exhibited at almost every Inter BEE event – 49 years out of the 50 years the exhibition has been in existence. We spoke with Mr. Hideo Takaura, Deputy Manager of the Sales Department, about the content and theme of their display this year, as well as about their requests for the future at Inter BEE.

Exhibition of a FM Synchronous Broadcasting Transmitter toward Full-scale Deployment

■Please tell us about the themes and aims of your display this year.

Our firm has a thorough commitment to the customer first principle. We are working on improving customer satisfaction and quality. Furthermore, we are promoting the sustainable improvement of productivity in all aspects of our corporate activities and working on environmental conservation with the belief that the preservation of the global environment is the mission of all humankind. Our quality control is based on many years of experience and achievements. Together with this, we are promoting the further improvement of quality control. For example, we separated and made independent the Quality Assurance Department from our Manufacturing Division in 2010 and established the Quality Assurance Division. We meet the needs of our customers through an abundant range of our own products with "challenge to the best" as our catchphrase. We have developed and manufactured equipment such as measuring instruments, transmitters and relays, as well as contributing to the development of society, for more than 60 years in the broadcasting industry.

The highlight of our exhibition this year was a display of our newly developed FM broadcast master station transmitter and FM broadcast relay transmitter. Our FM master station transmitter supports synchronous broadcasting up to a maximum output of 1KW. When FM stations perform synchro-

nous broadcasting, it leads to an expansion in area and an improvement to reception efficiency. There are many stations in the experimental stage of this at the moment, but full-fledged deployment is expected in the future.

Moreover, this will also support FM complement broadcasting in AM stations. This is something grounded in the "Basic Policy of Systematic Development relating to FM Relay Stations Complementing AM Radio Broadcasting" that was announced in January 2014. License applications for this will be issued in order and FM complement relay stations will be established as a part of efforts to strengthen the transmission network for disaster prevention measures and poor reception countermeasures.

It is predicted that there will be full-fledged deployment of support for FM synchronous broadcasting in the future due to these circumstances. We are making preparations so that it is possible to sell this product by the end of this fiscal year. We received numerous questions and queries together with a favorable impression at this exhibition.

Effect on the Effective Use of Frequencies and Intervention Prevention

■What is synchronous broadcasting?

When you broadcast with the same frequency in a broadcasting area, if the same frequency is emitted from a nearby transmitting station, interference may occur in the overlapping region and the reception may be poor. FM synchronous broadcasting is the solution to this interference. FM synchronous broadcasting makes the frequency precisely the same. This makes it possible to avoid interference and it also enables the effective use of frequencies because it leads to an expansion in the reception area and an improvement to the listener reception efficiency. There is a high level of convenience even with mobile reception such as car radios. The number of FM stations considering the introduction of synchronous broadcasting has been growing. In addition, synchronous broadcasting systems will also be needed in FM complement stations in order to avoid the same kind of interference.

The basic part of the FM broadcast relay transmitter we exhibited at this event is compatible with all channels. It is

possible to amplify up to 150W with the in-built PA after converting to the frequency of your choosing. We would like to make proposals for solutions through systems with the transmitters of the parent stations.

Desire to Contribute to the Development of Society with Inter BEE

■Please tell us about your past Inter BEE exhibitions and the future.

We have exhibited at Inter BEE since the era when television color broadcasting came into full swing in 1965. It is no exaggeration to say that the history of our company goes hand-in-hand together with Inter BEE. At the start, our displays centered on measuring instruments, but we now offer a complete lineup of transmitter relays. We contributed to a wide range of fields by taking advantage of the transmission technologies we have built up over many years with terrestrial broadcasting stations, cable TV stations, in-building independent digital broadcasting, astronomical observatories and radio astronomy satellites.

Inter BEE is the exhibition that we as a company put most of our efforts into as an opportunity to widely appeal to the strengths of our technologies. We hope to walk hand-in-hand together with Inter BEE in the future and contribute to the development of society through the provision of communication technologies in a wide range of fields.

Proposals for State-of-the-Art Solutions Utilizing 60 Years of Technology and Expertise such as Digital FPU Devices and the First 4K Camera to be Exhibited in Japan

Hitachi Kokusai Electric Inc. showcased an automatic program delivery system, automatic CM delivery system, base station equipment, FPU and 4K camera. All of these products are backed by technology and expertise over many years in the development and sale of products for the broadcasting and communications industry by this company. Hitachi Kokusai Electric is a relatively young company – it was created through a merger between Kokusai Electric, Hitachi Electronics and Yagi Antenna in 2000. However, these three companies that merged together are known for their major contributions over many years in the fields of broadcasting, wireless communications and information processing.

Kokusai Electric was established in 1949 and delivered wireless telephone devices in trains for the general public through Japan's first induction radio system to NTT (at that time, Nippon Telegraph and Telephone Public Corporation). After that, the firm was involved in the development of wireless devices over many years.

Shiba Electric, one of the roots of Hitachi Electronics, successfully produced television cameras in Japan. In 1958, the company completed the first VTR for broadcasting to be produced in Japan; at the 1964 Tokyo Olympics, the firm also provided cameras and relay machines in addition to supplying VTRs.

Yagi Antenna developed the first eight-stage super turn style antenna to be produced in Japan after the establishment of the firm in 1952. After that, the name of Yagi Antenna came to be familiar for many years as a brand of antennas. (Currently, Yagi Antenna has merged with a company in the group to become Hitachi Kokusai Yagi Solutions.)

Mr. Akihiro Nishibashi, Manager of the Product Strategy & Planning Department in the Business Planning Center of the Video and Communication Systems Division at Hitachi Kokusai Electric Inc., had the following to say. "The broadcasting equipment of Hitachi Kokusai Electric has a 60 year history that goes hand-in-hand together with broadcasting in Japan. We have set up display booths at almost every one of the 50 Inter BEE exhibitions that there have been to showcase our latest broadcasting equipment. Although the era is shifting to a trend for high definition video such as 4K, our firm is continuing to develop new solutions." We asked Mr. Nishibashi about the features of the products his firm displayed this year and his expectations for Inter BEE.

Mr. Akihiro Nishibashi
Manager, Product Strategy & Planning Department, Business Planning Center, Video and Communication Systems Division, Hitachi Kokusai Electric Inc.

Proposal of a Digital FPU for the Radio Wave Transition

■What was your highlight at Inter BEE this year?

We showcased an automatic program delivery system, automatic CM delivery system, base station equipment, FPU, 4K camera, 8K camera and more at Inter BEE this year. Our "digital FPU device" drew the most attention among these products. Our digital FPU device has improved convenience and reliability during operation together with the customer by taking advantage of our operational expertise from the analog era.

FPUs (field pickup units) are wireless relay transmission devices for television broadcasting. These transmit signals using UHF waves or microwaves. There are many cases in which transmitters and receivers are installed outdoors with an unobstructed view using the strength of the linearity of radio waves. It is necessary to devise schemes to cope if it is not possible to directly receive these signals, such as by setting up a relay with the installation of receiving equipment on high mountains or steel towers. These are often used in the transmission of shooting material outdoors, such as in sports relays and news from disaster sites. Our firm won acclaim for the early commercialization of a dual analog-digital model for terrestrial digital broadcasting. At present, we are proceeding with development while anticipating changes in the market with products that have adopted MIMO (multiple-input and multiple-output) technology to improve communication quality by using multiple antennas at both the transmitter and receiver. In addition to FPU devices, we have also been putting our efforts into receiving base station systems that make it possible to transmit audio and video at multiple points in marathon relays and in aerial shooting helicopters at disaster sites.

■Please tell us about the digital FPU radio wave transition.

Frequencies in the 800MHz band were allocated to UHF and SHF for FPU and specific transmission systems in Japan. However, in order to adapt mobile phone frequencies to worldwide standards, the Notification Frequency Allocation Plan was amended in April 2014 with this band assigned to telecommunication operations (mobile phone operations) and it was decided to end the use of this band for broadcasting operations by March 31, 2019. The 1240MHz to 1300MHz and 2330MHz to 2370MHz bands have been allocated as an alternative to this. Experiments toward the practical use of these bands have already been underway since 2014.

FPU systems will also be gradually updated to support these new frequencies in line with these changes. The digital FPU device we displayed at this exhibition also supports these new frequencies. This device attracted a great deal of attention from those involved with broadcasting in the field who are on the verge of this transition and we received a variety of questions about this product.

A 4K Camera that Allows Cameramen to Leverage Their Expertise On-site

■4K camera also attracted a great deal of interest.

We have developed the "SK-UHD4000." This is a 4K camera system for broadcasting that enables the unchanged use of the 2/3-inch B4 mount lenses used in conventional HD broadcasting cameras. It was the first time for our firm to showcase this 4K camera in Japan. The special feature of this camera is that it is possible to equip it with standard HD lenses without the assistance of a special conversion adapter. Therefore, it is possible to effectively utilize existing lenses. Furthermore, this product emulates the operability and usability the same as with previous broadcasting cameras, so it is possible to shoot 4K video leveraging the experience of cameramen. This is an innovative 4K camera system for broadcasting that solves the sensitivity/depth of field issues which have become a challenge in sports relay sites and that facilitates the production of programs in 4K video which will increase in the future.

Desire to Show Off Results at the Tokyo Olympics with Other Companies

■What expectations do you have for Inter BEE in the future from the standpoint of an exhibitor of many years?

Our firm has exhibited at Inter BEE for a long time since the era of our predecessor Hitachi Electronics. Inter BEE is the exhibition that we pour the most of our efforts into among shows in Japan. Since our merger, we have expanded our product lineup to include products such as antennas and positioned this exhibition as an opportunity to widely showcase our latest solutions. We are also concentrating our efforts on 8K toward the coming 4K/8K era and we hope to play a part in the next-generation broadcasting industry. I think that many achievements have been exhibited that were utilized in broadcasting when the first Inter BEE exhibition was held the year after the Tokyo Olympics in 1964. Japanese broadcasting technology to top that will no doubt be on display at the next Tokyo Olympics in 2020. I would like to show off those achievements at Inter BEE so I hope that the exhibition is able to further expand as a place to do this.

Video and Broadcast Equipment

Hall 6

Hall 5

Hall 4

6215 Canon / Canon Marketing Japan

5507 IKEGAMI TSUSHINKI

5217 Grass Valley

4513 ASTRODESIGN

4308 Panasonic / Panasonic System Networks

4208

6505 Blackmagic Design

4207 FOR-A

6214 Quantel

5615 HOEI SANGYO **5614** INTER-TEC **5506** Fujitsu

5410 Hitachi Kokusai Electric

5216 Microsoft Japan

4512 Carl Zeiss **4511** Nac Image Technology

4307 PHOTRON

6504 Lambda Systems

6503 GoPro/ TAJIMA MOTOR CORPORATION

Tokyo Broadcasting System Television

HIRAKAWA HEWTECH

FUJIFILM

6405 NHK Media Technology

6310 iFootage/ Fotopro **6311** MEDIA SOLUTIONS **6211** UNITEX **6212** UNITEX **6123** Born **6124** Digital

5612 Extron Electronics, Japan **5505** IDX

5408 JEITA **5409** Tape Storage Technical Committee

Deity-Talent Sky Holdings

5312 EIDEN **5313** Newtech **5213** **5214** DENSO **5113** RAID

4510 Rohde & Schwarz Japan

4413 ROCKET **4414** Tektronix

EIZO / Videojet X-Rite

4305 IMAGICA

6309 VILLAGE Island **6210** Lancer Link **6213** Planear **6122** Synergy

5611 **5613** IDX

5407

5311 MOUBIC **5212** TOTSU CREATIVE VISION **5215** **5112** JBS CROSS / VARAVON **5114**

4412 FilmLight **4416**

4304 **4306** PFU LIMITED

6209 FAIRLIGHT JAPAN **6121** Prolyte Doughty Japan / A.C. Lighting Asia / All Creation

5406 Carina System / Capella Systems

Japan Radio **5115** Sunmulon

4411 IDEAL SYSTEMS JAPAN

4106 Harmonic Japan

6115 Nippon Steel & Sumikin Welding

6114 TOKYO KO-ON DENPA **6116** TACHII ELECTRIC WIRE

MUSASHI OPTICAL SYSTEM

Grip Factory Munich

Tsubata Engineering PACO ELECTRONICS INDUSTRY

TELESTREAM

4206 Ask / D-storm / AJA Video Systems / GB Labs

6404 Soliton Systems

6306 Hokuwa **6307** Midoriya Electric **6305** **6308** **6207** **6208** **5609** Crescent **5503** IDK **5405** NTT Group

IBEX Technology

5309 **5310** K-WILL FUJIMIC **5209** Attain **5210** **5208**

Fuji Light Commercial Trading

5109 **5110** The Furukawa Battery

4508 Media Partner

4408 PRODRONE **4409** INTOPIX **4410**

4303 NIXUS Hokkaido Nikko Telecommunications

Flashback Japan Cybernetech **6305** **6308** NHK Integrated Technology Keisoku Giken

5608 SETTSU METAL INDUSTRIAL

5308 TECHNONET ELECTORI **5211** InnoQos

5107 **5111** CIRCLE Nippon Antenna

4407 SEKIDO

6206

Web Technology

6113 UNIADEX **6112** ALMEDIO **6117** MIC Associates **6119** Thirdwave Technologies **6120** NEOTRON/PRINCETEL

Amimon Japan K.K.

6111 Artiza Networks **6105** JapanCableCast

6106 **6107** Pond5 Aspera

5605 **5606** Video Research

5502 TechnoHouse

5404 Hitachi

KANSAI TSUSHIN DENSEN/Synox Tech

Network Electronics Japan

4202 Vitec Videocom / Manfrotto Distribution / CamCast7 / Technical Farm

6304 Adobe Systems / Intel

6203 **6204** Intel Motion Elements

CTCSP

5306 FUYOH VIDEO INDUSTRY **5205** **5206** **5105** Canare Electric **4505** **4506** GIN-ICHI **4405**

4302 Kenko Professional Imaging / Kenko Tokina / SLIK

YOSHIMI CAMERA

6205

5607 Skeed

5207

Sanwa Cine Equipment Rental / Sanwa Pro Light / Egripment BV **4507** NEP

4404 **4406** ANRITSU

4105 Fontworks

Panasonic Visuals digital egg Digital Garden

6202 Indyzone

6110 Shoshin **5604** ISID

5305 **5307** TAKIGEN MFG

5104 **5106** Power Zenith THREEM

Kaitekikukan FC

4103

6610 **6605** **6606** **6607** **6608** TOKYO LABORATORY

Retro Enterprises

HighPoint Technologies

AIM ELECTRONICS KONDO BROADCAST SYSTEMS

Research Institute of Systems Planning

PROSPER ELECTRONICS

DEMPA PUBLICATIONS

4102

6609 **6604** **6603** **6602** **6601** EIKO Q-TEC

6103 Z3Technology Japan

5602 **5501** **5402** **5403**

5302 **5303** EMIC **5202** **4502** **4503** FOREST DYNE SYSTEMS **4402** **4403**

4301 SANSHIN ELECTRONICS

4101 BLACK BOX NETWORK SERVICES

6402 Explore **6302** JAPAN MATERIAL / Matrox **6201** RED DIGITAL JAPAN/ Seika Digital Image **6102** Plat-Ease/ Tokushima 4K forum executive committee

5501 MITOMO / JP GENERATORS / BROAD-DESIGN

5401 TANAKA DENKI

5301 Onlystyle ARDIS TECHNOLOGIES **5201** **5203** Cross Imaging **5101** **5102** **4501** Fuchu Giken **4504** **4401** MEDIA GLOBAL LINKS

Ray McRAY Tokyo Sound Production

6401 **6403** IT Access **6301** **6303** AIC

6101 Brightcove

5103 Too

NTV Technical Resources JAPAN POST PRODUCTION ASSOCIATION

AMAGI MEDIA LABS NOMURA UNISON

5601 **5603** WELL BUYING INDUSTRIAL

NICCABI / Plannet **5304** ERG VENTURES **5204** SKYPIX

IO Industries

4201 KYOSHIN COMMUNICATIONS

ITOCHU Techno-Solutions

Japan Communication Equipment

PROMISE Technology Sanwa Cine Equipment Rental/PANTHER

Media Partner

6003 MEDIAEDGE **6002** **6001** Techno Mathematical FS-NET

5003 Traffic Sim

5001 CINEMAX **5002** Strawberry Media Arts

4001 Mitsubishi Electric

Video and Broadcast Equipment

Professional Audio Equipment

Hall 3

Hall 2

Hall 1

3514 Toshiba

3117 Sony / Sony Business Solutions

2415 NGC/ Autodesk/ Visual Graphics

2308 NEC

2117 Atomos

1309 Hibino / Hibino intersound / Studer Japan Broadcast / FIRST ENGINEERING

1216 YAMAHA MUSIC JAPAN

Professional Lighting Equipment

3512 Gong International

3513 Toshiba Lighting & Technology / Toshiba Lighting & Technology Engineering

Japan Association of Lighting Engineers & Designers

3511 JAPAN THEATER SERVICE / LS media / Stardeco korea

3318 LEADER ELECTRONICS

3116 Roland

2414 Shotoku / RENT ACT SHOTOKU

2307 Cosmic Engineering

2116 Avid Technology

1514 OTARITEC

1308 Shure Japan Limited

1107

1215 S.C.ALLIANCE/ ACOUSTIC TECHNICAL LABORATORY

SUNPHONIX / SUNMUSE

4 Hall 3

3604
3603
3601
KOTO ELECTRIC

JAPANESE SOCIETY of LIGHTING DIRECTORS

3509 SUNTECH
3510 Aurora Lite Bank
3508 Visio Light

BROADCAST INDIA SHOW
BroadcastAsia

TELE-audiovision Magazine

PluraBroadcast

High Resolution

HANAOKA MUSEN DENKI

3410 NobbyTech
3314 3315
3211 CCBN 3216
3112 NAB 3113 IBC
2609 P-tec 2610
Gansui
2513 2514
2411 JOUER / IDeomotor Robotics 2412 CHUBU NIHON MARUKO
2306 IMAGENICS / VIDEOTRON
2204 FILM DIRECT
2114 RF DESIGN 2115
1610 1611 TAC SYSTEM
1512 SHIZUKA 1513 Fourbit
1411 Media Integration
1307
1213 PULSE 1214

3409 Media Garden
Prolight - Sound Guangzhou
3312 HKTD 3317
3213 KOBA 3214 SET
3111 3114
IABM
3115 Volicon
2608
TOV TECH 2611
2512 Kowa Optical Products
2413 Prism
2113 THAMWAY TAC SYSTEM
2112 DUPLEX
1612 Fraunhofer IIS
1511 Comodo Mattina
1410
1212
1211 TEAC
LIVEGEAR

STAR COMMUNICATIONS
Takahashi Construction
Raritan Japan

NITTOBO ACOUSTIC ENGINEERING

3505 CreateLED International

3407 3408
3309
3208 3209 ARIB
3109 Agai Trading
2510
2408 2409
SYNTHAX JAPAN / ResoNetz
ANTELOPE AUDIO
1306

4 Hall 3

3406
3308
RIKEI
3210
3108 JVC KENWOOD
Teleforce
2509
2508 HIROTECH
2407 Ishikawa TRUNK
1609 1608
1508 1509 HOEI SANGYO
1408 1409 TAKASAGO
Bestec Audio

NTI Japan
1106 Dream

EMC Japan
3308
AZLAB
ONTEC
AD TECHNO
2511 Rimage Japan
Continental Far East
MI Seven Japan
1407 Dan Dugan Sound Design/ digicom
1208 Audio Brains
1209
1105 MIXWAVE

KONOVA KOREA
Motion Picture and Television Engineering Society of Japan
RADIO FREQUENCY SYSTEMS
1510
CRYPTON FUTURE MEDIA
1210
IMAI & COMPANY

3504 TOTSU INTERNATIONAL
Hitachi Systems / Hitachi Solutions
Sigma ITS
SUGAWA VIDEO ENGINEERING
ETANI ELECTRONICS
AMPHENOL AUDIO
1104 MEDIA PLUS

3405 HEIWA SEIKI KOGYO
3306 Miharu Communications
3205 3206
3106 3107 MetaData
2606 DX ANTENNA
2505 NKK SWITCHES
2506 RIP-TIE 2507
2405 Laguna Hills / DATATON AB
2304 AT Communications
2202 ITOCHU Cable Systems
2109 2110
1606 Bosch Security Systems
1505 1506 Neutrik Techno House
1406 Solid State Logic Japan
1305 Yamaki Electric
1207 TAMURA

3207
3105
TC GROUP JAPAN
1605 1607
1504 1507 MIT MORSON JAPAN
1304

3204 TOMOCA Electronics
Matsuura Kikai Seisakusho
YUASA
Yokogawa Digital Computer
2404 2406 TANIZAWA SEISAKUSHO
COSMO SOUND
Penn Fabrication Japan
1405 TRITECH
ONKYO TOKKI
1103 STUDIO EQUIPMENT

3503 Shibasoku / ASACA
3305 3307 DENNO
Advantech
Artesyn Embedded Technologies
2605 WASEI 2607 Cerevo
Audio Precision / CORNES Technologies
2111
2102 Miyaji Professional Division
1402 1403 MIURA
1301 1302 DSP Japan GROOVE
1204 audio-technica
1205

Komine Musen Denki
Mitsui Bussan Aerospace
System Engineerings / E-LambdaNet
SEIKO SOLUTIONS
2103 Digital Laboratory
Laguna Hills
1206 OKADA International

3402 3403 A&A
3302 3303
3202 M&I Network / Datavideo Japan
3102 3103
2602 2603
2502 2503 ARGO
2402 2403
1602 SANKEN MICRO-PHONE
1502 1503
1501
1404 UETAX
1303
1201 1202 1203
1102 MTS& PLANNING

3401 3404
ARMOR
3304
3100 NextoDI
2601 2612 ITE Tech.
2501
2401 LSI JAPAN
2301 2302
2201 Media Partner
2101 Miyaji Import Division
1601 ASNICS
1604 Suyama Dental Laboratory
1401 ELECTORI
AZDEN
NIHON ELECTRO HARMONIX
ICONIC
1101 Sigma Systems Engineering

3301
3201 3203
3101 3104 Sendai Television
HYPER TOOLS
2604 ZOOM
2515
2303
HYTEC INTER
2104 CANAL WORKS
STAGE SOUND ASSOCIATION of JAPAN / Catch Me
Crescent

3502 NIPPON VIDEO SYSTEM
3501
JEPICO
NOGA JAPAN
SEMTECH JAPAN
Syowa sangyo
COMART SYSTEM
Broadcast Supply International
Ultra-Realistic Communications Forum
3001 ALVIX
Nihon Binary
Computer Dynamics
ACME Portable
SpectalCal
Facilis Technology
2003 METAL TOYS
MEDIACAST
Satellite Communications Network
2106 Association of 700MHz Frequency Promotion
2107 SOUTHERN ACOUSTICS
2002 MUSASHI
2001 MICROCOM
1002 ELECTORI
1001 TOA
Tech Trust Japan

3408 3407
EAGLE BEAMING INTERNATIONAL

Projection Mapping Association of Japan

3407 3408

Hall 1-2
Professional Audio Equipment

1215	ACOUSTIC TECHNICAL LABORATORY INC
2111	AMPHENOL AUDIO
1408	ANTELOPE AUDIO
1401	APPLAUSE SYSTEMS. Co.
1601	ASNICS CO., LTD.
2106	Association of 700MHz Frequency Promotion
1208	AUDIO BRAINS Co., ltd
1204	audio-technica Corporation
1404	AZDEN CORPORATION
1306	Bestec Audio Inc.
1606	Bosch Security Systems LTD.
2104	CANAL WORKS CORPORATION
1401	Catch Me, Inc.
1511	ComodoMattina, Inc.
1609	Continental Far East Inc.
1605	COSMO SOUND Co., Ltd.
1202	Crescent Co., Ltd.
1510	CRYPTON FUTURE MEDIA, INC.
1407	Dan Dugan Sound Design Inc.
1407	digicom Ltd.
2103	Digital Laboratory Inc.
1106	Dream Inc.
1301	DSP Japan Ltd.
1002	ELECTORI CO., LTD.
1501	ELECTORI CO., LTD.
2109	ETANI ELECTRONICS CO., LTD.
1309	FIRST ENGINEERING CO., LTD.
1402	FOSTEX COMPANY
1513	Fourbit Corporation
1612	Fraunhofer IIS
1302	GROOVE CO., LTD.
1213	HANAOKA MUSEN DENKI CO., LTD.
1309	Hibino corporation
1309	Hibino intersound corporation
1611	High Resolution Co., Ltd.
1509	HOEI SANGYO CO., LTD.
1203	ICONIC
1210	IMAI & COMPANY, LTD.
1503	Laguna Hills, Inc.
1212	LIVEGEAR Inc.
2203	MATSUDA TRADING CO., LTD.
1411	Media Integration, Inc.
1104	MEDIA PLUS CO., LTD
1508	MI Seven Japan, Inc.
1504	MIT INC.
1502	MIURA CORPORATION
1105	MIXWAVE INC.
2101	Miyaji Import Division
2102	Miyaji Professional Division
1507	MORSON JAPAN CO., LTD.
1102	MTS&PLANNING Co., Ltd.
1505	Neutrik Limited
1303	NIHON ELECTRO HARMONIX K.K.
1410	NITTOBO ACOUSTIC ENGINEERING CO., LTD
1209	NTI Japan Limited
1205	OKADA International Inc.
1304	ONKYO TOKKI LTD.
1514	OTARITEC Corporation
1607	Penn Fabrication Japan INC.
1214	PULSE Co., Ltd.
1608	ResoNetz LLC
1215	S.C.ALLIANCE INC.
1602	SANKEN MICROPHONE CO., LTD.
1307	Sennheiser Japan K.K.
1512	Shizuka Co., Ltd.
1308	Shure Japan Limited
1101	Sigma Systems Engineering Co., Ltd.
1406	Solid State Logic Japan K.K.
2107	SOUTHERN ACOUSTICS Co.,Ltd.
1206	STAGE SOUND ASSOCIATION of JAPAN
1309	Studer Japan Broadcast Ltd.
1103	STUDIO EQUIPMENT CORPORATION
1107	SUNPHONIX / SUNMUSE, Inc.
1604	Suyama Dental Laboratory Co., Ltd.
1608	Synthax Japan Inc.

1610	TAC SYSTEM, INC.
1409	Takasago Ltd
1207	TAMURA CORPORATION
2110	TC Group Japan, Inc.
1211	TEAC CORPORATION
1201	Tech Trust Japan Co., LTD.
1506	TechnoHouse Inc.
1001	TOA Corporation
1405	TRITECH INCORPORATED
1403	UETAX Corporation
1216	YAMAHA MUSIC JAPAN CO.,LTD.
1305	Yamaki Electric Corporation

Hall 2-6
Video and Broadcast Equipment

3402	A&A Co.,Ltd.
6121	A.C. Lighting Asia KK.
2603	ACME Portable Corp.
2508	ADTECHNO Inc.
3307	Advantech Co.,Ltd
2610	AEROSCAPE inc.
3109	Agai Trading Corporation
5307	AIM Electronics Co.,Ltd.
4206	AJA Video Systems
6121	All Creation Inc.
6112	ALMEDIO INC.
3001	ALVIX Corporation
4410	Amimon Japan K.K.
4406	ANRITSU CORPORATION
5202	ARDIS TECHNOLOGIES BV
2502	ARGO Corporation
3302	ARMOR CORPORATION
3102	Artesyn Embedded Technologies
6111	Artiza Networks, Inc.
3503	ASACA CORPORATION
4206	ASK CORPORATION
3209	Association of Radio Industries and Businesses (ARIB)
4513	ASTRODESIGN, Inc.
2304	AT Communications K.K.
5205	ATEN JAPAN CO., LTD.
2117	Atomos Co., Ltd.
5209	Attain Corporation
2415	Autodesk Inc
2116	Avid Technology K.K
3308	AZLAB Inc.
4101	BLACK BOX NETWORK SERVICES
6505	Blackmagic Design
6124	Born Digital, Inc.
3315	BROADCAST INDIA SHOW
3301	Broadcast Supply International Co.,Ltd.
3314	BroadcastAsia2015
5501	BROAD-DESIGN Co.Ltd
4202	CamCast7 Inc.
5105	Canare Electric Co., Ltd.
6215	Canon Inc. / Canon Marketing Japan Inc.
5406	Capella Systems
5406	Carina System Co., Ltd. / Capella Systems
4512	Carl Zeiss Co.,Ltd.
3211	CCBN
2607	Cerevo Inc.
2305	CHIEF
2412	CHUBU NIHON MARUKO CO.,LTD
5001	CINEMAX CORPORATION
5107	CIRCLE Co., Ltd.
3100	COMART SYSTEM
2503	Computer Dynamics Corporation
2404	CORNES Technologies Ltd.
2307	Cosmic Engineering Inc.
3505	CreateLED International Pte.Ltd
5609	Crescent, inc
5101	CrossImaging
6207	Cybernetech Corporation
2405	DATATON AB
3202	Datavideo Japan Co.Ltd.
5213	Deity-Talent Sky Holdings Limited
4403	DEMPA PUBLICATIONS, INC.
3305	DENNO Co.,Ltd.

5214	DENSO Co., Ltd.
4206	D-Storm, Inc.
2112	DUPLEX CO., LTD.
2606	DX Antenna Co., Ltd.
3501	EAGLE BEAMING INTERNATIONAL CO.,LTD.
4505	Egripment BV
5312	EIDEN Co., LTD
4304	EIZO Corporation
2602	E-LambdaNet Corporation
5208	ELECTORI CO., LTD.
3406	EMC Japan K.K.
5302	EMIC CO.,LTD
5304	ERG VENTURES.CO.,LTD
5612	Extron Electronics, Japan
2515	Facilis Technology Inc.
6209	FAIRLIGHT JAPAN
2204	FILM DIRECT
4412	FilmLight
6305	Flashback Japan Co.,Ltd.
4105	Fontworks Inc.
4208	FOR-A COMPANY LIMITED
4503	Forest Dyne Systems Corporation
4501	Fuchu Giken Inc.
5109	Fuji Light Commercial Trading Co.,Ltd
4207	FUJIFILM Corporation
5310	FUJIMIC, INC.
5506	Fujitsu Limited
5306	FUYOH VIDEO INDUSTRY CO., LTD.
2513	GANSUI CORPORATION
4206	GB Labs
4405	GIN-ICHI Corp.
6503	GoPro / TAJIMA MOTOR CORPORATION Co., Ltd.
5217	Grass Valley K.K.
5407	Grip Factory Munich
4106	Harmonic Japan G.K.
3405	HEIWA SEIKI KOGYO CO., LTD.
5402	HighPoint Technologies, Inc.
5409	HIRAKAWA HEWTECH CORP.
2510	HIROTECH, INC
5410	Hitachi Kokusai Electric Inc.
3205	Hitachi Solutions, Ltd
3205	Hitachi Systems, Ltd.
5404	Hitachi, Ltd.
5615	HOEI SANGYO CO., LTD.
6306	Hokuwa Co., Ltd.
3312	Hong Kong Trade Development Council
2601	HYPERTOOLS CO., LTD.
2303	HYTEC INTER Co., Ltd.
3111	IABM
3113	IBC
5210	IBEX Technology Co., Ltd.
4416	IDEAL SYSTEMS JAPAN CO., LTD.
2411	IDeomotor Robotics
5503	IDK Corporation
5505	IDX Company, Ltd.
5613	IDX Company, Ltd.
6310	iFootage / Fotopro
5507	IKEGAMI TSUSHINKI CO., LTD.
2306	IMAGENICS
4305	IMAGICA Corp.
6213	Incorporated Company Planear
5211	InnoQos Corporation
5614	INTER-TEC Co., Ltd.
4409	INTOPIX
5203	IO Industries Inc.
2407	ISHIKAWA TRUNK
2612	ITE Tech. Inc.
2202	ITOCHU Cable Systems Corporation
5403	Japan Communication Equipment Co., Ltd.
5112	Japan Radio Co.,Ltd.
5114	JBS CROSS INC
5408	JEITA Tape Storage Technical Committee
3304	JEPICO Corporation
2411	JOUER LIMITED
5501	JP GENERATORS CO.,LTD.
3108	JVCKENWOOD Corporation
4402	Kaitekikukan FC
5206	KANSAI TSUSHIN DENSEN CO.,LTD.
6208	KEISOKU GIKEN Co., Ltd
4302	Kenko Professional Imaging Co., Ltd.
4302	Kenko Tokina Co., Ltd.
3213	KOBA 2015 (KOREA E & EX INC.)
3403	KOMINE MUSEN DENKI Co.,Ltd.
5207	KONDO BROADCAST SYSTEMS INC.
3407	KONOVA KOREA
2514	Kowa Optical Products Co.,Ltd
5309	K-WILL Corporation
4201	KYOSHIN COMMUNICATIONS Co., Ltd.
2405	Laguna Hills, Inc.
6504	Lambda Systems Inc.

6210	Lancer Link Co., Ltd.
3318	LEADER ELECTRONICS CORP.
2401	LSI JAPAN CO., LTD.
3202	M&I Network Inc.
4202	Manfrotto Distribution K,K
2203	MATSUDA TRADING CO., LTD.
3204	Matsuura Kikai Seisakusho Co., Ltd
3409	Media Garden Inc.
4401	MEDIA GLOBAL LINKS CO., LTD.
6311	MEDIA SOLUTIONS,INC.
2301	MEDIACAST CO., LTD.
5602	MEIKO TECH CO., LTD.
4102	Memory-Tech Corporation
3107	MetaData
2003	METAL TOYS
6117	MIC Associates, Inc.
2001	MICROCOM LTD.
5216	Microsoft Japan Co., Ltd.
6307	Midoriya Electric Co.,Ltd.
3306	Miharu Communications Inc.
5501	MITOMO CO., LTD.
4001	Mitsubishi Electric Corporation
3303	Mitsui Bussan Aerospace Co., Ltd.
3408	MOTION PICTURE AND TELEVISION ENGINEERING SOCIETY OF JAPAN INC.
5311	MOUBIC INC.
2002	MUSASHI CO., LTD.
5611	MUSASHI OPTICAL SYSTEM CO.,LTD.
3112	NAB
4511	Nac Image Technology Inc.
2308	NEC Corporation
6120	NEOTRON Co.,LTD.
4506	NEP Inc.
4404	Network Electronics Japan Co.,
5313	Newtech Co.,Ltd.
3103	NextoDI Co., Ltd.
2415	NGC Corporation
6308	NHK Integrated Technology Inc
6405	NHK Media Technology,Inc.
5301	NICCABI CO., Ltd.
2402	Nihon Binary Co., Ltd.
5111	Nippon Antenna Co.,Ltd.
6115	Nippon Steel & Sumikin Welding Co., Ltd.
3502	NIPPON VIDEO SYSTEM CO., LTD
4303	NIXUS Hokkaido Nikko Telecommunications, Co., Ltd.
2505	NKK SWITCHES CO., LTD.
3410	NobbyTech. Ltd.
3404	NOGA JAPAN LTD.
5601	NOMURA UNISON CO.,LTD.
5405	NTT Advanced Technology Corporation
5405	NTT Electronics
5405	NTT IT CORPORATION
5303	Onlystyle Corporation,Ltd.
3210	ONTEC CO., LTD.
5108	PACO ELECTRONICS INDUSTRY INC.
4308	Panasonic Corporation
4308	Panasonic System Networks Co.Ltd.
5102	PANTHER GmbH
4306	PFU LIMITED
4307	PHOTRON LIMITED
3104	PIXTREE, Inc.
5301	Plannet.,LTD
3114	Plura Broadcast Inc.
5104	Power Zenith Inc.
6120	PRINCETEL, INC.
2413	Prism Co.,Ltd.
4408	PRODRON
3309	PROJECTION MAPPING ASSOCIATION OF JAPAN
3317	Prolight-Sound Guangzhou
6121	Prolyte Doughty Japan Inc.
5201	PROMISE Technology
4502	PROSPER ELECTRONICS Co.,LTD
2609	P-tec Co., Ltd
6214	Quantel K.K.
2409	RADIO FREQUENCY SYSTEMS
5113	RAID Inc.
2408	Raritan Japan, Inc.
2414	RENT ACT SHOTOKU CORP
5106	Research Institute of Systems Planning, Inc.
2114	RF DESIGN Co.,ltd.
3208	RIKEI CORPORATION
2511	Rimage Japan Co., Ltd.
2506	RIP-TIE INC.
4413	ROCKET Inc.
4510	Rohde & Schwarz Japan
3116	Roland Corporation
4301	SANSHIN ELECTRONICS CO., LTD.
4505	Sanwa Cine Equipment Rental Co., Ltd.
5102	Sanwa Cine Equipment Rental Co., Ltd.
4505	Sanwa Pro Light, Inc.
2302	Satellite Communications Network Co.,LTD

2403	SEIKO SOLUTIONS INC.
4504	SEIRYO ELECTRIC CORPORATION
4407	Sekido Co., Ltd.
3401	Semtech Japan
3101	Sendai Television Incorporated
3214	SET
5608	SETTSU METAL INDUSTRIAL CO., LTD.
3503	Shibasoku, Ltd.
2414	Shotoku Corp.
3206	Sigma ITS corporation
5204	SKYPIX
4302	SLIK CORPORATION
6404	Soliton Systems K.K.
3117	Sony Corporation / Sony Business Solutions Corporation
2501	SpectraCal, Inc.
2512	STAR COMMUNICATIONS K.K.
5002	Strawberry Media Arts Co., LTD.
3106	SUGAWA VIDEO ENGINEERING CO., LTD.
5115	Sunmulon Co., Ltd.
6122	Synergy K.K.
5206	Synox Tech Co.,ltd.
3201	Syowa sangyo co.,ltd.
2602	System Engineerings Co.,Ltd.
2115	TAC SYSTEM, INC.
6116	TACHII ELECTRIC WIRE CO.,LTD
2611	Takahashi Construction Co., Ltd.
5305	TAKIGEN MFG. CO., LTD.
5401	TANAKA DENKI Co.,Ltd
2406	TANIZAWA SEISAKUSHO, LTD.
4202	Technical Farm
5502	TechnoHouse Inc.
5308	TECHNONET CO., LTD.
4414	Tektronix
3216	TELE-audiovision Magazine
2509	Teleforce Co.,Ltd
4411	TELESTREAM
2113	THAMWAY CO., LTD
5110	The Furukawa Battery Co.,LTD.
4507	THREEM Inc.
6211	Tokyo Broadcasting System Television, Inc.
6114	TOKYO KO-ON DENPA CO.,LTD
3207	TOMOCA Electronics Limited
5103	Too Corporation
3514	Toshiba Corporation
5212	TOTSU CREATIVE VISION CO.,LTD
3504	TOTSU INTERNATIONAL CO., LTD.
2608	TOV TECH Co., Ltd.
5003	Traffic Sim Co., Ltd.
5215	Tsubata Engineering Co., Ltd.
3203	Ultra-Realistic Communications Forum
6113	UNIADEX, Ltd.
6212	UNITEX Corporation
6123	UNITEX Corporation
5114	VARAVON
5504	VIDEO Service Co.,LTD
4304	Videojet X-Rite K.K
2306	VIDEOTRON　CORP.
6309	VILLAGE island Co.,Ltd.
2415	Visual Graphics Inc.
4202	Vitec Videocom K.K
3115	Volicon
2605	WASEI CO., LTD.
5603	WELL BUYING INDUSTRIAL CO., LTD.
2507	Yokogawa Digital Computer Corporation
4103	YOSHIMI CAMERA CO., LTD.
3105	YUASA CO., LTD.
6103	Z3Technology Japan Co.,Ltd.
2604	ZOOM CORPORATION

Hall 3
Professional Lighting Equipment

3510	Aurora Lite Bank Co.
3512	Gong International Co.,Ltd.
3604	Japan Association of Lighting Engineers & Designers
3511	JAPAN THEATER SERVICE CO., LTD.
3603	JAPANESE SOCIETY of LIGHTING DIRECTORS
3601	KOTO ELECTRIC CO., LTD.

3511	LS media
3511	Stardeco korea
3509	SUNTECH CO., LTD.
3513	Toshiba Lighting & Technology Corporation
3513	Toshiba Lighting & Technology Engineering Corporation
3508	Visio Light Inc.

Hall 6
ICT / Cross Media

6304	Adobe Systems K.K/Intel K.K.
6301	AIC Inc.
6303	Amagi Media Labs Private Limited
6107	Aspera
6101	Brightcove K.K
5605	CTCSP Corporation
6402	Explorer Inc.
6002	FS-NET Ltd.
6205	Indyzone Co, Ltd
6203	Intel K.K.
5604	ISID
6401	IT Access Co., Ltd.
6403	ITOCHU Techno-Solutions Corporation
6302	Japan Material Co.,Ltd. / Matrox
6105	JapanCableCast Inc.
6003	MEDIAEDGE Corporation
6204	MotionElements Pte Ltd
6402	PALTEK CORPORATION
6102	Plat-Ease Corporation
6106	Pond5 Inc
6201	RED DIGITAL JAPAN K.K / Seika Digital Image Corporation
6202	Retro Enterprises Co.,Ltd.
6110	Shoshin Corporation
5607	Skeed Co., Ltd.
6001	Techno Mathematical Co., Ltd.
6119	Thirdwave Technologies Co., Ltd.
6102	Tokushima 4K forum executive committee
5606	Video Research Ltd.
6206	Web Technology Corp.

INTER BEE CONNECTED

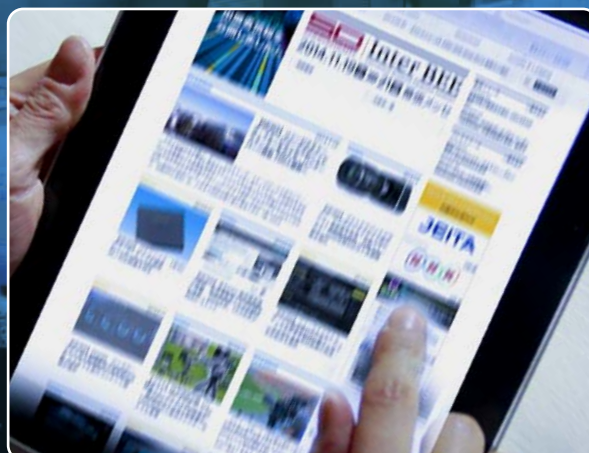|	
6710	Actvila Corporation
6705	Amazon Data Service Japan K.K.
6702	EVC Inc.
6701	Forecast Communications Inc.
6706	FUJI SOFT INCORPORATED/Ooyala Inc.
6704	Fuji Television Network, Inc.
6703	Internet Initiative Japan Inc.
6707	ITOCHU Cable Systems Corporation
6718	Multiscreen Broadcasting Study Group
6713	Newphoria Corporation
6709	NEXTSCAPE Inc.
6708	Nippon Television Network Corporation
6714	Tokyo Broadcasting System Television, Inc. / KDDI CORPORATION
6711	TV Asahi Corporation

JPPA Pavilion@ ASIA CONTENTS FORUM

6607	digital egg inc.
6606	Digital Garden Inc.
6609	Japan Post Production Association
6605	NTV Technical Resources Inc.
6610	Panasonic Visuals Co., Ltd.
6601	Q-TEC, Inc.
6603	RAWESOME! Division of Eiko Co., Ltd.
6602	RAY MCRAY
6608	TOKYO LABORATORY LTD.
6604	Tokyo Sound Production Inc.

The Professional Information Site for Audio, Video and Communications

INTER BEE ONLINE
www.inter-bee.com

Inter BEE sets up a press team "Inter BEE News Center", which distributes information such as exhibition information provided by each exhibitor as well as information about exhibitions related to Japan and countries overseas. Collected information is distributed in the form of articles and videos by the press team and provided to target customers through the Online Magazine and Inter BEE TV on Inter BEE official website.

Inter BEE Online articles (excerpt)

Magazine

NGC Corporation   2014.11.5UP

Showsing 4K8K compatible systems, latest version of Autodesk, in-house developed schedule management system, and live scrubbing device for broadcast-banned words

---

Magazine

MEIKO TECH CO., LTD.   2014.11.10UP

Exhibiting the "MVC Series" multi-video wall controller for up to 40 screens with unlimited window display, which is being increasingly used in museums and public spaces, such as "TeNQ" in Korakuen

---

Magazine

Atomos Co., Ltd.   2014.10.21UP

Exhibition on the production version of ATOMOS SHOGUN Implementation of a hands-on method of connecting the ATOMOS product line to working cameras Holding of workflow seminars

---

Magazine

CTCSP Corporation   2014.10.28UP

The debut of Elemental multi-screen delivery platform; hosts the Transcode Challenge Project for on-the-spot BYO data conversion

---

Magazine

Panasonic System Networks Co.Ltd./Panasonic Corporation   2014.11.5UP

Unveil its "Panasonic 4K World," featuring the Varicam 35 and other 4K products. Also on display is the Lumix GH4U 4K solution, which pairs with a drone for aerial photography

---

Magazine

TECHNONET CO., LTD.   2014.11.11UP

Exhibiting PowerPoint Compatible Large-Scale Stadium Display System, OA Compatible Twitter-Connected System, 4K Encoder & More

---

Magazine

IDX Company, Ltd.   2014.10.25UP

Main line of batteries and new products to be showcased at the event. The CW-25 is a new wireless transmission system capable of transmitting up to 2 km

---

Magazine

Rohde & Schwarz Japan   2014.10.29UP

Exhibiting 4K end-to-end solutions from recording to broadcast transmission with a 4K/120P disk recorder with real-time playback of non compressed 4K/120P

Magazine

HOEI SANGYO CO., LTD.   2014.11.7UP

Spotlighting the creative production environment with the Baselight One 4K color grading system and the Draco line of digital KVM switches

---

Magazine

NTT Advanced Technology Corporation   2014.11.11UP

4K60P Enabled HEVC Decoder/Transcoder exhibited in Japan for the first time - Software for clear sound collection at 100 dB exhibited

Magazine
Blackmagic Design — 2014.11.11UP

First Japanese showing of items like 4K cameras with PL lens mount support, Cintel scanner with Thunderbolt 2 support, and Fusion 7

Magazine
Nac Image Technology Inc. — 2014.11.15UP

Featuring high-end flagship ALEXA 65. Demonstrating 4K video with ALEXA 65.

Magazine
RED DIGITAL JAPAN K.K — 2014.11.17UP
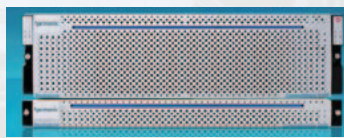
RED DRAGON's non-compressed 4K broadcasting work flow debut. Also displaying Vizrt's virtual graphic camera work

Magazine
Harmonic Japan G.K.. — 2014.11.18UP

Introducing the latest media processing systems. Demonstrating 4K real-time editing with MediaGrid shared storage and Premiere Pro CC

Magazine
YAMAHA MUSIC JAPAN CO.,LTD. — 2014.11.12UP

Showcasing 2015 Release of the New CL/QL Series Version 3.0 Digital Mixer and Nuendo 6.5 High-End Audio Production System

Magazine
NTT Electronics — 2014.11.15UP

Image IP Gateway Equipment, HEVC realtime transcoder is revealed for the first time in Japan| The next generation of media transmission technology; MPEG media transport, is also displayed for reference

Magazine
MOUBIC INC. — 2014.11.18UP

Ericsson introduces its 4K TV broadcasting platform "TV Anywhere", displaying a 4K program broadcasting demo at official partner Moubic's booth

Magazine
InterBEE TV
Carl Zeiss Co.,Ltd. — 2014.11.19UP

First ever exhibition of the "ZEISS Compact Zoom CZ.2 15-30mm T2.9" lens in Japan - a single lens that can be utilized with a variety of camera platforms

Magazine
Carina System Co., Ltd./Capella Systems — 2014.11.14UP

Exhibiting a Software-Based 4K HEVC Encoding System, an Ultra-Sensitive Full HD Video Camera Capable of Producing Color Films in Low-Light Environments, and More

Magazine
Canon Inc. / Canon Marketing Japan Inc. — 2014.11.16UP

Debut CINE-SERVO 1500 mm 20x zoom lens supporting 4K over the entire zoom range - Latest color management workflow based on standards such as BT. 2020 also to be introduced.

Magazine
Hibino corporation — 2014.11.18UP

Exhibition of the latest technology in comprehensive "acoustics, video, and lighting"| Exhibition of high-performance equipment such as 4K enabled LED displays and and the latest line array speakers

Magazine
InterBEE TV
IDK Corporation — 2014.11.20UP

Exhibiting easy-to-assemble non-strip optical fiber cable

Magazine — Inter BEE TV

Onlystyle Corporation,Ltd. 2014.11.20UP

New ECO-POWER portable power supply unit for indoor use, downsized to 1/4, now featuring Uninterruptible Power Supply

Magazine

Fuji Television Network, Inc. 2014.11.20UP

"Fuji TV NEXTsmart" is your 4th TV, viewable on smartphones; cloud-based transmission, using smartphones to spread a new TV culture

Magazine

EIZO Corporation 2014.11.20UP
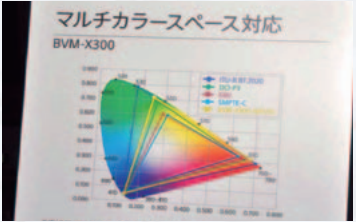
DCI 4K-compatible color management LCD monitor "CG318-4K" exhibited Color management demonstration and seminars

Magazine

Sony Corporation/Sony Business Solutions Corporation 2014.11.20UP

HDR (high dynamic range) compatible 4K organic EL master monitor on exhibition. Light emission without mis-adjusted black levels. Incorporates the entire DCI-P3 color space, and most of BT.2020

Magazine — Inter BEE TV

SOUTHERN ACOUSTICS Co.,Ltd. 2014.11.20UP

Japan's only dummy head manufacturer, shows off dummy head mics for measurement and recording

Magazine — Inter BEE TV

MOUBIC INC. 2014.11.20UP

Showcasing a satellite broadcasting (SNG) vehicle built with broadcasting equipment in mind

Magazine

IT Access Co., Ltd. 2014.11.20UP

Demonstrating HEVC file transcoding that utilizes the cloud and automated file-based QC through Baton

Magazine — Inter BEE TV

HYTEC INTER Co., Ltd. 2014.11.20UP

Performing low-delay IP wireless LAN transmission

Magazine — Inter BEE TV

SUNPHONIX / SUNMUSE, Inc. 2014.11.20UP

A 4t multi-purpose truck with a customizable arrangement of equipment is on display

Magazine — Inter BEE TV

CINEMAX CORPORATION 2014.11.20UP

The Diverse application of Cinemax Vertical and Horizontal Filming Equipment "Spiral Slider Dolly - Katana" Is Demonstrated

Magazine

Amazon Data Service Japan K.K. 2014.11.20UP

Introducing their Amazon Cloud Media Workflow—Cost Benefit of no Upfront Fees and a Completely Usage-Based Payment Model

Magazine — Inter BEE TV

LEADER ELECTRONICS CORP. 2014.11.20UP

Exhibiting the BT.2020-compatible 4K/8K multi-waveform monitor, LV5490. Newly equipped with a focus assist function

Magazine

Keynote Speech 1   2014.11.20UP

NAB vice chairman delivers keynote address on the plan to migrate US next-generation broadcasting to ATSC 3.0, in a speech entitled "2016 Spectrum Auction"

Magazine   *Inter BEE TV*

TechnoHouse Inc.   2014.11.21UP

H.264 Transmission Compatible Compact Switcher "BrightEye NXT450" and 4K RAW Compatible Field Recording Monitor "Odyssey 7Q" on Exhibit

---

Magazine   *Inter BEE TV*

Attain Corporation   2014.11.21UP

Exhibiting its Latest Teleprompters and Speech Prompter | SSP Series Teleprompter Features 4 Modes of Operation

---

Magazine   *Inter BEE TV*

HEIWA SEIKI KOGYO CO., LTD.   2014.11.24UP

ALLEX- a tripod system system integrating a tripod and slider. Offers an all-in-one solution to panning, tilting, and sliding

---

Magazine   *Inter BEE TV*

NHK Media Technology,Inc.   2014.11.21UP

Unveil Live Action Footage at 8K3D Theater | Shows 4K3D Live Surgery Simulation and 3D Earthquake Video | Presents a Range of Broadcast/Telecoms Equipment, Inc

---

Magazine   *Inter BEE TV*

DX Antenna Co., Ltd.   2014.11.21UP

Exhibiting an IPDC Terrestrial Data Transmission System and High Speed Coaxial Modem (EoC) Connect to High Speed Internet Over a Televison Coaxial Cable with Existing Infrastructure

---

Magazine

Adobe Systems K.K   2014.11.21UP

Demo of the latest version of Adobe Creative Cloud Introduction to video production on a large 355 inch 4K screen

---

Magazine   *Inter BEE TV*

Pond5 Inc   2014.11.25UP

Promotion of the "Pond5" site developed by Pond5 to sell stock footage - Providing interface with Adobe Premier Pro

---

Magazine   *Inter BEE TV*

Shibasoku Co., Ltd.   2014.11.21UP

Presenting the TG4000 4K Test Signal Generator Used by SKY Perfect JSAT, Showcasing Device's Track Record and Contributions to Evolution of 4K Broadcasting

---

Magazine   *Inter BEE TV*

MEDIAEDGE Corporation   2014.11.21UP

XAVC file player with 4K broadcast capabilities on display

Magazine

Invited Speech 6   2014.11.21UP

Brazilian Society of Television Engineering Takes the Podium | Discusses Current Hurdles to Digitization of South American Broadcasts

---

Magazine   *Inter BEE TV*

Quantel K.K.   2014.11.25UP

Display "GE2", a shared-Storage Solution Enabling Switching Between Multiple Pablo Rio Systems, for the First Time. The World's First High-Speed 8K/60p System, "Pablo Rio 8K", Also Exhibited in a Technical Display

Magazine · Inter BEE TV

APPLAUSE SYSTEMS. Co.　2014.11.26UP

1.2 Ghz Band Digital Wireless Microphone Peripherals on Exhibit Compatible with "Specified Radio Microphones" and Maintains the Same Usability as with conventional microphones

Magazine · Inter BEE TV

ALVIX Corporation　2014.11.28UP

Debut next gen networked broadcasting system Video distribution with a single laptop

Magazine · Inter BEE TV

EAGLE BEAMING INTERNATIONAL CO.,LTD.　2014.11.29UP

Taiwan's Acebil, working full speed on the sale of its tripods and lightweight jibs, establishes a Japanese subsidiary, and is exhibiting its small lightweight carbon fiber jibs and compact sliders

Magazine · Inter BEE TV

Web Technology Corp.　2014.11.30UP

Exhibition of Software for Converting PSD Files into Hybridcast Compatible HTML5 content| Automatic Processing of Individual Layer Image Outputs and Coordinate/Effect Settings, etc.

Magazine · Inter BEE TV

SEIRYO ELECTRIC CORPORATION　2014.11.26UP

Exhibiting their short range specified low powered wireless transceiver that allows 5 people to talk simultaneously| "G-TALK," and their commercial use IP wireless transceiver compatible with Softbank LTE compatible data/voice

Magazine · Inter BEE TV

IKEGAMI TSUSHINKI CO., LTD.　2014.11.28UP

New HC-HD300 HDTV dockable camera shown for the first time. While retaining the same performance and quality of previous models, the camera has a new price appealing to the CATV market

Magazine · Inter BEE TV

Japan Material Co.,Ltd. / Matrox　2014.11.29UP

Real-time 3D character generator "Karisma CG" on exhibit; Already adopted by broadcasters in 24 countries worldwide; Optimized for the latest GPUs, editing and output without rendering

Magazine · Inter BEE TV

LIVEGEAR Inc.　2014.11.30UP

Display the latest K-array speakers and original LEDs. The extensive lineup includes the "Liz-W," which is equipped with adjustable color and temperature zoom, and the "LizX4," which is becoming increasingly popular with broadcast stations

Magazine · Inter BEE TV

Hitachi, Ltd.　2014.11.28UP

Unveil French company Dalet's MAM systems in Japan | Working with broadcasters to offer customized solutions | Widely deployed packages offer low-cost file-based workflows

Magazine · Inter BEE TV

TANIZAWA SEISAKUSHO, LTD.　2014.11.29UP

Reference exhibit of simplified matrix mixer and headset for television relay set use; Equipped with features such as 8x8 connections for simultaneous sharing, and line switching for rehearsal/live filming

Magazine · Inter BEE TV

Internet Initiative Japan Inc.　2014.11.30UP

Demonstrating a new solution for "4K/HEVC" high-speed conversion in a cloud setting | Hard disk collection service that reduces uploading time and effort

Magazine · Inter BEE TV

Soliton Systems K.K.　2014.12.5UP

HEVC Smart-telecaster Zao video processor w/ camera ports offers full HD video through public mobile network; supports four cameras simultaneously, provides secure transmissions via unique protocol

Magazine — *Inter BEE TV*

Multiscreen Broadcasting Study Group   2014.12.9UP

Demonstrating program-linking app "SyncCast" with great success; to build a business model and launch at 57 broadcasters around the country

---

Magazine — *Inter BEE TV*

ETANI ELECTRONICS CO., LTD.   2014.12.10UP

Exhibiting high resolution and high fidelity audio testing and measuring equipment for scientific and audio industry applications

---

Magazine

RAID Inc.   2014.12.12UP

Introducing Camera Gimbal Supporting F55 and ALEXA | NHK Enterprise Created Production Support System Compatible with 4K for HD Production also Demonstrated

---

Magazine — *Inter BEE TV*

NIPPON VIDEO SYSTEM CO., LTD   2014.12.12UP

Presenting the first ever domestically-produced wireless compatible lens control device; box lens adapter device compatible with 4K cameras and live switcher that enables one person to operate two cameras also on display

---

Magazine

Nippon Television Network Corporation   2014.12.9UP

Unveil JOIN TOWN, a new interactive television system aimed at helping disaster countermeasures in regions with aging populations

---

Magazine

ASK CORPORATION   2014.12.11UP

Revealing the newly released 4k Camera "AJA CION", miniature editing system, "TriCaster Mini", and exhibits high-speed shared storage "HyperSPACE"

Magazine

Tokyo Broadcasting System Television, Inc.   2014.12.12UP

Exhibition of BooBo Cloud - A TBS Television & KDDI Joint Development for Creators Utilizing Google Cloud Platform to Enable Easy Sharing of In-Production Videos

---

Magazine

CHIEF   2014.12.12UP

Exhibiting the American-Made Projector Mount "CHIEF" Proposed for Multi-purpose use in Broadcasting, Signage, and Office Environments

---

Magazine — *Inter BEE TV*

MotionElements Pte Ltd   2014.12.10UP

Instantly Search Images for Relevant/Similar Video Content with MotionElements – Quickly and Easily Search a Database of More than 500,000 Videos

---

Magazine — *Inter BEE TV*

KYOSHIN COMMUNICATIONS Co., Ltd.   2014.12.11UP

Demonstrating 4K60P editing using latest version of Mistika software, shows 261" super wide angle video 4K LED signage with world's smallest pitch of 1.5mm

---

Magazine — *Inter BEE TV*

MEDIA SOLUTIONS,INC.   2014.12.12UP

Presenting axle Video's media file management solution, axle 2015, for the first time, and gave a demonstration of the product working in conjunction with Avid ISIS 15500

Magazine

NHK Integrated Technology Inc   2015.1.15UP

Exhibiting multiple solutions including "Multi-function Digital Signage System" and "Broadband Optical Transmission Equipment"

Magazine

ARGO Corporation 2015.1.15UP

"Epiphan Pearl" H.264 compatible streaming unit equipped with 1TB storage and more on display

Magazine

PHOTRON LIMITED 2015.1.15UP

Unveil the "Atlas" muti-format media player made by U.S.-based Archimedia, capable of the synchronized playback of over 200 subtitle formats, and sporting DCP encryption functions

Magazine Inter BEE TV

CIRCLE Co., Ltd. 2015.1.16UP

Exhibiting Multicopter Aerial Photography System - Providing safe, reliable and affordable aerial photography solutions for the growing demand in aerial imaging

Magazine

Techno Mathematical Co., Ltd. 2015.1.16UP

HEVC real-time decoding technology for 8K/60p debuted - Video under 200 Mbps bitrate played on an 8K display

Magazine

Synergy K.K. 2015.1.15UP

Synergy & Accusys Taiwan presents their Accusys ExaSAN PCIe bus direct storage system. 5,000 MB/s high-speed data transfer possible with two units

Magazine

Brightcove K.K 2015.1.15UP

Introducing their video distribution and advertisement service "Brightcove Once" and exhibits "ZENCODER," which implements transcoding on the cloud

Magazine

SUNTECH Co., Ltd. 2015.1.16UP

Displaying includes high-capacity LED light unit "LED LG-1200S" with 72W output using 1200 high-intensity white LEDs

Magazine

FUJIMIC, INC. 2015.1.16UP

Exhibiting MXF File Transfer and Management System | Expansion of Operations After Successfully Developing Systems for Broadcast Stations Including Subtitling for Over 8,000 Titles per Year

Magazine

Strawberry Media Arts Co., LTD. 2015.1.15UP

Exhibiting diverse solutions using large LED video systems, including its high-definition Floor LED Vision which can withstand two tons on the floor

Magazine

PFU LIMITED 2015.1.16UP

Cutting-edge video transmission demonstrations, including uncompressed 8K/60p live transmission with the NHK-MT booth, and 4K/60p transmission demonstration with JPEG 2000

Magazine Inter BEE TV

Sigma Systems Engineering Co., Ltd. 2015.1.16UP

Presenting the SS-3016, the latest digitized model in its 4by4 intercom box series, with 8x8 matrix cascading functionality

Magazine

Laguna Hills, Inc. 2015.1.16UP

Presented the Swedish company-made multi-image displaying software "WATCHOUT." It allows construction of large screens such as with projection mapping, from images on multiple PCs

Magazine
KEISOKU GIKEN Co., Ltd　　　　　2015.1.16UP

"Convert all videos to 8K." Upscaling videos from PC, HD, and 4K sources to 8K

Magazine
NEC Corporation　　　　　2015.1.16UP

Ultra high sensitivity, highly portable "NC-H1200P" camera and Reference exhibit of 2K-HEVC codec "VC/VD-810"

Magazine
Memory-Tech Corporation　　　　　2015.1.16UP

Exhibiting Their LTO Archive Turnkey System "LTARC-1000" with Internal Content Management Software

Magazine
Mitsubishi Electric Corporation　　　　　2015.1.16UP

Presenting their 8K HEVC Encoder and HEVC-compliant HDTV high-speed modem with the theme of "Next-Gen Video Transmission System Solutions"

Magazine
FOR-A COMPANY LIMITED　　　　　2015.1.16UP

FT-ONE-S world premier of its new compact FT-ONE model; HBC-2000 ultra high sensitivity camera first showing at InterBEE

Magazine
ASTRODESIGN, Inc.　　　　　2015.1.16UP

Increased functionality with the compact and lightweight 2 kg cube-shaped AH-4800 8K camera head - Exhibition of large-scale video system using 50 Micro Tiles

Magazine
PROJECTION MAPPING ASSOCIATION OF JAPAN　　　　　2015.1.16UP

Debut public exhibit of projection map works at InterBEE to boost acceptance and raise popularity of projection mapping

Magazine
Toshiba Lighting & Technology Corporation / Toshiba Lighting & Technology Engineering Corporation　　　　　2015.1.16UP

Introducing Their Full LED System for Bi-directional LED Control -- The Interactive Exhibit is Well-Received

Magazine
CreateLED International Pte.Ltd　　　　　2015.1.16UP

Showcasing a 420-inch 4K-compatible LED display, establishes Japanese subsidiary with the support of Takenaka and NGC to ramp up domestic sales

Magazine
Aurora Lite Bank Co.　　　　　2015.1.16UP

Displaying LED studio lights. Also displays back-end wiring in installation examples

Magazine
Kowa Optical Products Co.,Ltd　　　　　2015.1.16UP

Exhibiting their HDMI Compatible "KSM080xHM2" Multi-scan Matrix Switcher Convert Multiple Signals into HDMI at Once

Magazine
JBS CROSS INC　　　　　2015.1.23UP

Wirecam for remote photography, the multicopter aerial photography system

Magazine   Inter BEE TV

ITOCHU Techno-Solutions Corporation   2015.1.23UP

GIGANET TV multi-angle video application from Itochu Techno-Solutions Corporation demoed; features SNS connectivity

Magazine   Inter BEE TV

MI Seven Japan, Inc.   2015.1.25UP

Displaying PreSonus StudioLive RM rack-mount mixer Realizes intuitive workflow Remote control through a Wi-Fi touch panel

Magazine   Inter BEE TV

NEP Inc.   2015.1.25UP

Exhibiting BL-BPN Series of high-capacity lithium-ion V-mount batteries, capable of simultaneous multi-voltage supply with multi adaptor plate

Magazine   Inter BEE TV

Fuchu Giken Inc.   2015.1.26UP

Exhibiting portable FM broadcast equipment for special emergency broadcasts - transmission and receipt of emergency government broadcasts over FM radio

Magazine   Inter BEE TV

JVC KENWOOD Corporation   2015.1.25UP

Announcing the GY-HM200 HM-series 4K camera. Featuring an f/1.2 lens with 12x optical zoom and 4K high-resolution recording at 150 Mbps

Magazine   Inter BEE TV

MEDIA GLOBAL LINKS CO., LTD.   2015.1.25UP

Show off new MDX4090 IP video router with 96 10Gbps ports for broadcaster core networks

Magazine   Inter BEE TV

ADTECHNO Inc.   2015.1.26UP

Showcased HDBaseT compatible HDMI splitters and extenders, capable of non-compressed 4-way split 4K/30p images

Magazine

ITOCHU Cable Systems Corporation   2015.1.26UP

Proposing Personal TV as a solution geared to OTT services - also transmits to smart devices

Magazine   Inter BEE TV

VILLAGE Island Co.,Ltd.   2015.1.25UP

Exhibiting the new DTU-315 USB3.0 compliant universal multi-standard modulation interface for all broadcast bands -- terrestrial, satellite, and cable TV

Magazine

Shizuka Co., Ltd.   2015.1.25UP

Displaying The Shizuka Stillness Panel audio panel, which was developed with participation from pro musicians, engineers, etc. It demonstrated high sound absorption even at the exhibition venue

Magazine   Inter BEE TV

Traffic Sim Co., Ltd.   2015.1.26UP

Presenting BCP broadcast solution with emergency and disaster broadcast support, proposes an interference monitoring system for aviation broadcasts, and installs a backup circuit system

Magazine   Inter BEE TV

Yokogawa Digital Computer Corporation   2015.1.26UP

Exhibiting integrated TS/SDI monitoring system for broadcast use at Inter Bee 2014 TV, with new real-time loudness monitoring function

Broadcasting Industry:
Overview of the Situation in Japan and the World

Key persons representing the industry from Japan and overseas come and give the keynote speeches and invited talks of Inter BEE every year to introduce the latest trends in the industry. Representatives of broadcasting-related organizations and equipment manufacturer organizations came to Japan from the United States, Europe and South America at Inter BEE in 2014 to introduce the current situation and challenges in broadcasting in each of those regions. Against a background in which the broadcasting industry in Japan is proceeding with efforts toward the realization of next-generation 4K and 8K broadcasting, a new way of broadcasting is being sought in each region.

■Japan: Advancing Technological Development for 8K Broadcasting

Mr. Yasuto Hamada, Senior Director and Chief Engineer of Japan Broadcasting Corporation (NHK), described the current situation and future prospects in regards to efforts toward the next generation of broadcasting in Japan. Japan is proceeding with the research and development of relevant equipment and transmission technologies with the aim of starting practical 8K broadcasting in 2018, so program production environments are also being put in order for this. Mr. Hamada stated that high-quality and high-performance televisions will be realized in the 8K era with a variety of services that take advantage of the Internet.

■OFDM and HEVC Adoption with U.S. Next-generation Broadcasting Standards

Mr. Sam Matheny, Chief Technology Officer of the U.S. National Association of Broadcasters (NAB), introduced the topic of the adoption of OFDM and HEVC in regards to the situation around the formulation of the new television standards ATSC3.0 that are being promoted by the United States toward realization in five years' time. He stated that restructuring of frequency utilization is being worked on in the United States and that purchase of the frequency bands of broadcasting stations and work to change channels is being promoted.

■Challenges of Manufacturers: Human Resource Development and Technology Acquisition

Mr. Peter White, Chief Executive of the IABM, and Mr. Peter Bruce, Director of the APAC, pointed out that although there is a positive trend for sales in broadcasting equipment manufacturers with the number of companies in the black increasing, profit margins are in decline. They said that the Internet is having an impact on the profit structure of broadcasting stations, so it is very important for manufacturers to acquire skills to deal with changes and to train employees.

■Key to the Survival of Broadcasting: Early International Standardization

Mr. Peter Owen, Chairman of Europe's largest broadcasting exhibition the IBC Council, pointed out that the Olympics which are held in various countries have become the time to demonstrate new broadcasting technology innovations. He gave file-based production, IP technology and 4K/8K as the challenges facing the European broadcasting industry in the future. He then suggested that unifying broadcasting standards at an early stage is a condition for the survival of the broadcasting industry.

■Brazil: Continuing Efforts to Popularize Digital Terrestrial Broadcasting

Mr. Olimpio Jose Franco, Chairman of the SET (Brazilian Society of Television Engineering), talked about the fact terrestrial digital broadcasting in his country is currently showing an improvement in the penetration rate in small cities. The broadcasting network there is complex and there are still a large number of reception problems (e.g. interference) with insufficient frequency bands. Although the government has assigned television bands to LTE, the acceptance situation appears to be difficult.

Toward New Broadcast and Media Services

Mr. Yasuto Hamada
Senior Director and Chief Engineer of the Japan Broadcasting Corporation (NHK)

Mr. Yasuto Hamada
Senior Director and Chief Engineer of
the Japan Broadcasting Corporation (NHK)

The progress of media technology in recent years has facilitated lighter, thinner and larger televisions and higher performance, smaller and lighter personal computers. Moreover, it has led to an increase in the speed and capacity of communications centered on ADSL and optical lines. People are arranging environments in which it is possible to come into contact with media at any time anywhere in addition to in the home. At the same time, it has become possible to enjoy a variety of services with the Internet added to television and radio broadcasting.

Our aim is to start practical broadcasts in 2018 of the next-generation broadcasting system "8K Super Hi-Vision" that has been under research by the Science & Technology Research Laboratories since more than ten years ago in line with the "Interim Report on the Follow-up Meeting for the 4K/8K Roadmap" which was published in September 2014. Test broadcasts in 4K/8K are scheduled to start on BS in 2016 when the Olympics are opened in Rio, while the plan is to begin practical broadcasts in 4K/8K in 2018 with the holding of the soccer World Cup in Russia. Furthermore, many relay broadcasts will be made in 4K/8K at the time of the 2020 Tokyo Olympics and Paralympics, so it will be possible for many viewers to watch these on commercially available televisions.

Research and development of relevant equipment is also needed toward full-fledged broadcasting in 8K. A camera with full resolution + high sensitivity for theaters was developed in 2013 and a 2kg camera is currently under development. In regards to program production equipment, research is also progressing on devices for relay vehicles, editing rooms and 22.2ch sound editing studios. A 145-inch 8K plasma display has also been developed and a flexible organic EL display which can be enjoyed on larger screens than in the home is under development as well. The point of 8K equipment development in the future will be the development of "various pieces of equipment with mobility, usability and operability comparable to that of high-definition equipment."

Verification of the transmission technology for 8K is also already underway. Broadcasting in 8K (1ch) using the free frequency band of the BS safety net is planned for satellite transmission. There has been success with a terrestrial long-distance transmission experiment in January 2014. There was success with a cable TV transmission experiment by NHK and J:COM in May 2014.

Alongside the increase in speed of networks and improvement to the functionality/performance of televisions, PCs and mobiles, the diversification of media services/usage environments and the diversification of audience preferences have set up the environment for full-fledged broadcasting and communications linked services.

Hybridcast services include the rewinding of programs being broadcast, archive video viewing, program participatory services with apps that link tablets and televisions, highlight video viewing and multi-viewing services. NHK began Hybridcast services on General TV in September 2013 and expanded these services to Educational TV, BS1 and BSP in September 2014. This Hybridcast will surely lead to a change to high-quality and high-performance televisions in the 8K era.

U.S. Broadcasters: New spectrum Challenges

Mr. Sam Matheny, Executive Vice President and Chief Technology Officer,
NAB (The National Association of Broadcasters)

In the United States, the broadcasting standard change from analog to digital starting in 1996 and completed 13 years later, created a huge demand for television sets from manufacturers, and provided broadcasters with many new business opportunities, better quality video and pictures, and TV viewers for the first time experienced entertainment through the new large screen TV sets.. In addition, by selling frequency bands resulting from the changed standard, the U.S. Government earned extraordinary revenue of 20 billion dollars. Only five years have passed since the final transition from analog to digital, but, in the U.S., formulation of a next-generation TV standard, ATSC 3.0, has already been promoted by ATSC (Advanced Television Systems Committee).

The physical layer of this ATSC 3.0 is expected to be OFDM (orthogonal frequency division multiplex) and HEVC (high efficiency video codec) will be the video compression technique. There is consensus that an IP-based (Internet Protocol) transport method will be adopted for ATSC 3.0, which is likely to enable ATSC 3.0 to easily integrate with many broadband and mobile communications.

There is also a new plan for a frequency auction, the "Incentive Spectrum Auction", but unlike last time, this auction is not related to the standard change. The auction has been postponed multiple times and is now scheduled for 2016. This frequency auction differs from a conventional auction because broadcasting stations can voluntarily participate and part of the revenue from the auction will go back to the stations that sell their spectrum. The government is pursuing this auction in part to provide more frequency bands for mobile and broadband communications.

This auction starts with a reverse auction (FCC purchase of frequencies from broadcasting stations). In this case, each station has four alternatives: a) To return all its frequencies and withdraw from the broadcasting business, b) To return all its frequencies but shift to the VHF band to continue broadcasting, c) To return all its frequencies but share channels

with other stations to continue broadcasting, or d) To continue broadcasting without participating in the auction. The FCC (Federal Communications Commission) thinks that many stations will remain in business, and those that do participate in the auction are likely to share channels or move to VHF.

The next step is a forward auction (FCC sale of frequencies to wireless carriers). This step happens simultaneous to the reverse auction and the number of frequency bands that are put up for the forward auction is determined by the number of frequency bands that were put up for the reverse auction. In addition, part of the revenue through the forward auction is plowed back to the broadcasting stations that returned their frequency bands.

The last step of the auction is repacking. Repacking is a channel-changing operation for "integrating and reorganizing" UHF frequency bands that were put up for auction.

The FCC has said that ATSC3.0 and the frequency auction have nothing to do with each other, but some in the broadcasting industry think that these two are related and they are promoted at the same time. In any case, since broadcasters think that it is their duty to "equally provide useful information to all people," they are paying close attention to what the next-generation broadcasting standard will be like.

Mr. Sam Matheny
Executive Vice President and
Chief Technology Officer, NAB

What is the future of broadcasting technology?

Mr. Peter White, Chief Executive, IABM
Mr. Peter Bruce, Director for APAC (Asia Pacific region), IABM

Mr. Peter White
Chief Executive,
IABM

The latest research by IABM revealed the following situation:

The annual sales of broadcasting devices by device manufacturers increased an average of 5.8% in the past two years, but those by medium-and small-size manufacturers decreased by 1.7% on average in the same period, and their profits also decreased. However, very recently, they have swung into the black and their latest profit growth rate is 12.2%. In addition, in the past two years the profit growth rate of profit-making manufacturers continues to be 60% or more, and the latest figure is 69.9%. Their profit margin on sales remained strong in the past two years, and the latest figure is 11.3%. In 2012 and 2013, their sales growth rate was positive but their profit growth rate was negative. According to past results, this pattern is repeated every three years.

Concerning the gross profit percentage as of June 2014, its median value was 55%, a drop from 60% in the first half and 59% in the second half of 2013. The median value of the ratio of R&D costs to sales is 16%, and is a stable figure. The median value of the ratio of the administrative costs to sales is 30%, a drop from 33% in the first half and 38% in the second half of 2013. As a factor that prevents orders from increasing, many companies mentioned "staff skills." This gives us a glimpse of the fact that the staff cannot catch up with the industry's quality conversion.

The scale of the market for broadcasting devices in the world as of 2013 is expected to be worth 40 billion dollars (about 4 trillion 700 billion yen), and the Americas account for 34%, the Asia Pacific region for 19%, and Europe, the Middle and Near East, and Africa 47%.

According to the 2014 broadcasting device customer survey, 45% of customer revenue is from advertising, 27% from license fees, and 16% from subscription fees for viewing pay TV, etc. In general, revenue earned from conventional

broadcasting is gradually decreasing, and revenue from new businesses, such as advertising on websites, mobile networks, and streaming, has tended to increase. Many companies think that this tendency will be stronger in two or three years. In addition, more companies are integrating their budgets for broadcasting technology and IT technology into one. Furthermore, companies buying broadcasting software directly from IT storage companies have considerably increased.

According to research among the engineers of broadcasting device manufacturers, an overwhelming number thought the future direction of technology development would be "IP, file-based creation, and networking." Many also considered that likely problems to be caused by the new technology would be "conversion from hardware to software" and "conversion of the present infrastructure." In addition, almost half of the engineers answered that the biggest challenge for the future was "Innovation and conversion of skills" and "Education of employees."
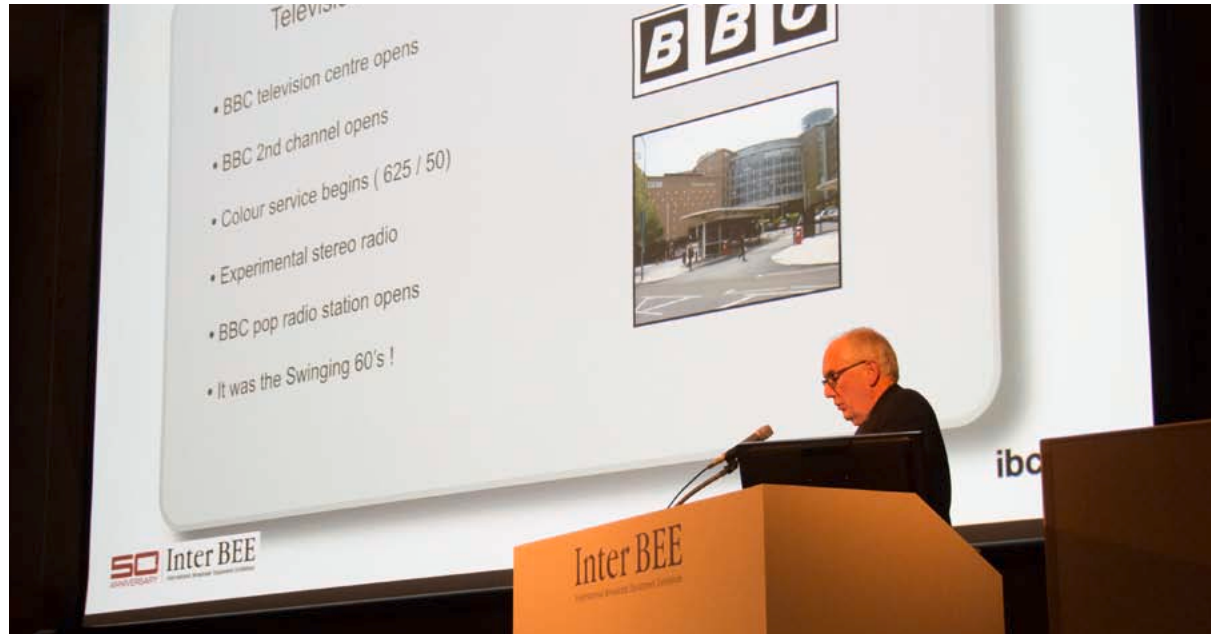

Mr. Peter Bruce
Director for APAC (Asia Pacific region),
IABM
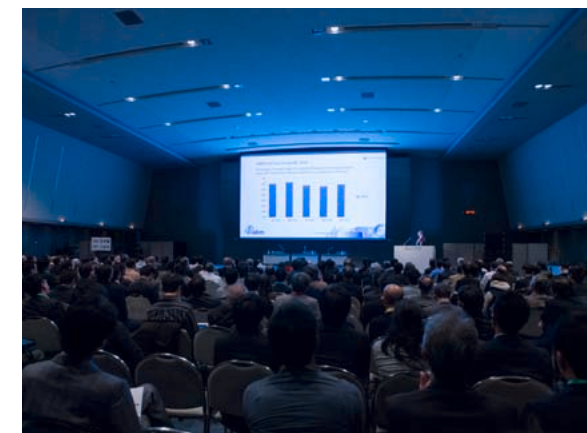
The past, present, and the future of broadcasting and its technology in Europe

Mr. Peter Owen, Chairman, IBC (International Broadcasting Convention) Council

Europe is not easily defined. Compared to 50 years ago it's geography has mostly remained unchanged, but today the broadcast and political boundaries are now very different. The EBU (European Broadcasting Union) unifies the public broadcasters but it's membership extends beyond the borders of the members of the EU. Whilst the EU has 23 officially recognized languages, broadcasters also serve many of its 60 minority languages. In 1993 the EBU merged with the OIRT, its Eastern Bloc equivalent to provide wider technical support, news exchange, and joint bidding for broadcasting rights.

Fifty years ago saw an era when broadcasting technology was revolutionized. In the UK, the BBC set up its second channel to start PAL color transmissions, experimented with stereo radio broadcasting, and in order to keep the younger audience it established Radio 1, a pop music radio station. France introduced SECAM color, whilst Germany and many other European countries began PAL color services. For the first time in history satellite links allowed the 1964 Olympics, held in Tokyo, to be electronically distributed as far as Europe. The Grenoble Olympics in 1968 was the first to be broadcast in color.

European broadcast technology suppliers such as Philips, Pye, Cintel, Vinten, EMI, Marconi, Thomson, Bosch Fernseh etc, all looked for exhibitions and conferences to assist the sales of advanced technologies, hence the establishing in the 60s of the Montreux International Symposium in Switzerland and IBC in the UK. For similar reasons InterBEE was launched in Japan.

In the 70's digital television processes were islands in an analogue sea. In 1972 the first NTSC to PAL digital standards converter was developed in the UK. Digital effects and engineering technologies followed but again they worked within a PAL or SECAM environment. Though the work of the EBU, SMPTE, ABU, world broadcasters and technology suppliers, digital studio harmonization came about came about in the 80's. The Barcelona summer Olympics was the first to use a digital infrastructure and the Lillehammer Winter Olympics the first to widely use digital VTRs.

Following NHK's HD coverage of the opening of the L.A. games in 1984, HD became the next technology for broadcasters. Europe proposed 1250/50 whilst Japan and the USA preferred 1125/60. Using two digital standards convertors at the Lillehammer Winter Olympics, Japan and Europe combined both standards in a production environment to demonstrate the viability of HD for broadcast.

Mr. Peter Owen
Chairman, IBC Council

The final solution of HD to the home needed digital compression and modulation but the first steps were to create a digital SD standard. Through the DVB project, the EBU harmonized and developed DVBT for terrestrial broadcast and equivalent standards for satellite and cable. DVB is now accepted by the majority of global broadcasters. Most European counties have by now converted from PAL to DVB. Many European channels have also upgraded to HD.

Looking to the future, European broadcasters face technology and audience retention challenges. With 4k and 8k on the horizon will IP technology replace SDI? Will the audience and advertising revenue also migrate to downloaded, PVR or OTT services?

To address these issues it was concluded that 1) Technology attracts customers but it is content that attracts viewers 2) Broadcasters need to upgrade but which way to go, SDI or IP 3) Global broadcasters need to unify standards otherwise mobile and telcos will dominate.

Finally, surveys of UK viewing habits show that whilst many suggest that broadcasting is dead, the statistics show that it is very much alive!

South American Broadcaster - What are the current challenges?

Mr. Olimpio Jose Franco, President, SET (Brazilian Society of Television Engineering)

In Brazil, research into digital television broadcasting started in 1993, and, after adopting the ISDB-T standard in 2006, broadcasting started in 2007 in cooperation with the Japanese government and private companies. Although the current diffusion rate of digital broadcasting is only 62% throughout the country, the rate is much higher in some urban areas: 94% in Rio and 89% in Sao Paulo. A task to tackle is to increase the rate in cities whose population is 50,000 or less.

Currently, the number of TV sets used in Brazil is about 100 million or more, and 13 million TV sets were sold in 2012 alone. Between 2014 to 2016 when the Olympics is held sales are expected to increase.

Concerning advertising revenue, one TV broadcasting station with an overwhelming share of 70% is steadily growing, while the share of the Internet and pay TV stations is extremely small, although they are also showing growth.

Analog broadcasting was theoretically stopped in 2015, with a rollout schedule, city by city from 2016 to 2018. However, because municipalities with retransmitting stations have other priorities, the schedule for stopping all analog broadcasting is not clear.

The diffusion rate of TV broadcasting in Argentina is currently 82%. There are regulations imposed on private broadcasting stations, and almost all the stations are run by the government. The Argentinian Congress is debating a "Communications Act" including a national plan for digital broadcasting. Because all broadcasting licenses are issued temporarily, investment in transmitting stations is not promoted. In addition, a "National Media Act" is also being discussed. Therefore, what the future regulations will be like is unclear.

The situation in Chile is complicated. The TV broadcasting share of all advertising revenue was 51% in 2010, but has now dropped to 42.7%; the analog TV broadcasting has very poor image quality forcing viewers to shift to digital pay TV. "Why is our TV broadcasting still analog, although the number of digital TV sets in Chile is now four million?" After discussing this problem for five years, in May 2014, Congress announced new and very severe regulations on the digital TV broadcasting industry with a strong emphasis on local regions, culture, education, etc.

Concerning Brazil again, on July 2014, the government allocated to LTE a total of 108 MHz (698 to 806 MHz) of the frequency band used for TV, so that TV and LTE can coexist. This is likely to be a serious obstacle to the future development of TV technology. There are five large-size TV networks and as many as 15 medium- and small-size networks in Brazil now, and the current frequency band is not wide enough, which makes it difficult to accept any new and advanced standard for developing TV technology.

In addition, due to mutual interference between TV and telecommunications, TV screens become dark and may also freeze. The interference can only be prevented by the use of filters, and, therefore, many viewers complain to the TV broadcasting stations.

Mr. Olimpio Jose Franco
President, SET

INTER BEE CONNECTED

Searching the Possibilities of the Media Business
Taking Diverse Initiatives
—Looking ahead to the near future of broadcasting

INTER BEE CONNECTED was held as the first project of Inter BEE. Half of the venue held exhibitions, and the other half was arranged for seminars for around 100 persons. Presentations were given by exhibitors, and other sessions were especially organized for each day.

In accord with its name, INTER BEE CONNECTED is a project organized with awareness of the situation that broadcasting has started to become integrated with communications. Instead of stopping there, the sessions presented by diverse members presented many hints for the growth of the broadcasting industry from many viewpoints.

The broadcasting industry has started integration with the Internet, and many systems and services making use of communications are springing up, one after another. The exhibition area at INTER BEE CONNECTED displayed such ways to broaden the conventional framework. Gathered exhibitors were businesses who had adapted to new viewing styles and business opportunities, such as broadcasters who are developing new services and technologies for new initiatives and companies related to video streaming, cloud services, and smartphone applications. This was the first of such events, but enthusiastic attendees visited each booth from day one, providing for a great turnout.

A place to discuss integration of next-generation broadcasting and communications

What does "Connected" mean, in the first place? Mr. Yasuji Eguchi explained in the opening speech, as the man who proposed the event: "'Connected' means being joined with and being related to, not just the Internet, but devices, other industries, and new business opportunities." The broadcasting industry is finally starting its full-scale integration with communication systems, and there is a great need for reconstruction of business model, including distribution of video on increasingly diversifying media. We need to look at this opportunity in a positive light, have discussions to find new directions, and have new business players take part. Connected was proposed with this goal in mind. Many members of the industry attended for the first time after hearing about INTER BEE CONNECTED, opening up new directions for Inter BEE itself.

Most of the exhibitors were operators of cloud services and video-delivery-related systems. Though it may seem that they would be unfamiliar to the broadcasting industry, most of them had already done business with broadcasters. Companies matching the theme of INTER BEE CONNECTED were gathered.

The portion of the exhibition hall dedicated to INTER BEE CONNECTED was divided into two halves. The first half held the exhibits, and the second half was for seminars, seating about 100. The seminar space was used for 22 presentations by the exhibitors over the three-day period, as well as 9 special sessions. The exhibition space was tended to by 16 companies, including co-operated booths. Both spaces were very well attended for all three days. Parts with especially strong turnout were the keynote speech in the afternoon of the opening day, "Media Viewing Trends in the U.S.A. and the Newest Trend in Viewership Measurement," and a session on the last day "Video Streaming by Key Stations," resulting in all the seats being filled, with more attendees standing.

Many attendees, such as sales and corporate development members of broadcasters, mentioned that they 'had never attended Inter BEE before.' This INTER BEE CONNECTED provided many players in the broadcasting and video businesses with the opportunity to gather and discuss the next generation of the media business.

Opening Speech
"Increasing the Value of TV in Media and the Importance of INTER BEE CONNECTED"

Make services and business opportunities a new center of focus, in addition to broadcasting equipment and technologies

With half the space set aside for exhibits and the other half a 100-seat seminar space, presentations were given daily by exhibitors, as well as specially arranged sessions.

Mr. Yasuji Eguchi (Director, Yasuji Eguchi Office LLC. and Managing Director, Digital Signage Consortium), a member of the Connected advisory board and the originator of the idea for this forum, got the ball rolling with his opening speech.

Concepts similar to "Connected" around the world

"I planned Connected for the 50th anniversary of Inter BEE, because I thought times had changed and we would need exhibits based on not only technologies but also services and business opportunities," noted Mr. Eguchi.

"In other lands, a special exhibit called 'Future Lab' has been added to NAB. A space called 'CONTENT Everywhere' has been set up at IBC. The CABLE SHOW in the U.S.A. has even removed 'cable' from their name and changed it to 'INTX,' short for 'the Internet & Television Expo.' They probably recognized the danger of continuing to limit themselves to wired cable TV." Following this trend, his recommendation that a new component is needed for Inter BEE, the representative of the expos for the Japanese broadcasting industry, culminated in "INTER BEE CONNECTED."

An Advisory Board Reflecting Ground-Level Awareness

■Participants are drivers of broadcasters' Internet-related business models

In holding the first INTER BEE CONNECTED, an advisory board was formed by players who have pioneered and driven the adoption of Internet-related business models in broadcasting and critics of the broadcasting industry who are knowledgeable about its trends. Throughout five meetings, opinions were exchanged on themes of the sessions and the lineup of lecturers. The five advisors were as follows:

The INTER BEE CONNECTED Advisory Board (in order of the Japanese syllabary)

Mr. Kiyoyasu Ando: Director, Cyber business strategy, Nippon Television Network Corporation

Mr. Yasuji Eguchi: Director, Yasuji Eguchi Office LLC.; Managing Director, Digital Signage Consortium; Digital Media Consultant

Mr. Hiroshi Saito: Manager, Strategy Planning Division, Mainichi Broadcasting System, Inc.; Managing Director, Multiscreen Broadcasting Study Group

Mr. Mikio Tsukamoto: Executive Director, Strategy Planning, Business Development & Enterprises Department, Fuji Television Network, Inc.

Ms. Keiko Murakami: Principal Researcher, Media Research & Studies Division, Broadcasting Culture Research Institute, Japan Broadcasting Corporation

Keynote Speech
"Media Viewing Trends in the U.S.A. and the Newest Trend in Viewership Measurement"

The keynote speech in the afternoon of day one was delivered by Mr. Eric Solomon, a Senior Vice President of The Nielsen Company. He vividly portrayed the latest developments in digital viewership measurement of broadcast contents in the U.S.A. He was joined onstage by Mr. Toshihiro Fukutoku, CEO of Nielsen Co., Ltd. (Japan) for the second half of his presentation, an active question-and-answer session with the audience.

■Rapid increase of "Internet viewing"

Mr. Solomon explained the "Cross-Platform Campaign Ratings" in the U.S.A. First, he showed data and explained the U.S. viewing trends of broadcast contents. Tablets are already in 46% of households, and are still showing signs of increase. Penetration of the paid Internet VOD Netflix was 30% of households in January 2014, but had increased to 36% by September of the same year, clearly showing great momentum. Live viewing accounts for 60–70% of broadcast content consumption, but 25–30% is time-shifted and 3–9% is on-demand. Live viewing is rapidly decreasing as a combination is becoming the norm. Awareness of such circumstances is leading to an increased demand of measuring viewing that is not live.

■Development of new viewership measurement technologies

Mr. Solomon noted that Nielsen expanded its measurement target to include tablets and smartphones, in addition to TV and computers. Time-shift viewing data called "C3" and "C7" are being used in the U.S.A. between some broadcasters and advertising agencies, allowing them to get a complete picture of live, time-shifted, and on-demand viewings.

Cross-platform viewing measurements are used to add Internet ads for on-demand viewing into the business model, apart from ads for broadcasts. Nielsen differentiates between the two by calling broadcast ads "linear advertisements" and on-demand ads "dynamic advertisements." The latter, using methods like other forms of Internet advertising, can be targeted. Such viewership measurements are required to make full use of broadcast content in the advertising market.

"Models of Advertising That Terrestrial Television Should Keep and Change"

The closing presentation of INTER BEE CONNECTED's opening day was presented by its master planner, Mr. Yasuji Eguchi (Yasuji Eguchi Office LLC.). He developed his theory on the way terrestrial television should move forward.

■Needed: a standard model of consumption on the Internet

Real-time viewing of broadcasted television has been decreasing steadily in the long-term. Meanwhile, many attempts have been made at increasing consumption by use of the Internet, but no standard model has been established. For example, some advanced users are using the latest recording device and a smartphone to watch programs recorded at home anytime, anywhere. That is a very useful setup, but television stations cannot be involved in this case.

When the TV station provides the same setup using the cloud, it can take active control of programs viewed through the Internet. If the TV stations themselves can manage the programming and how advertisements are inserted, can they not secure a revenue stream, just as they have with broadcasting? This, TV-station-managed streaming from the cloud, is central to his theory.

■Cloud-based streaming making full use of the advertising model

Further, Mr. Eguchi insists that television stations should fight for the advertising model no matter what. The current situation is that the ecosystem is being held up by viewers indirectly shouldering the 1,780,000,000,000 yen paid for television advertisements. That the diversification of devices and the spread of recording devices should break this ad-supported ecosystem would be a loss, not only for television stations but also for viewers and advertisers. Cloud-based streaming by television stations is the way to preserve this advertising model.

Mr. Eguchi summarized his vision of the future model: televisions stations would offer "time-shifted broadcasting" for a limited time after its original broadcast, as well as a cloud-based recording service. He concluded his presentation by saying that this model should be thought of as the new form of "broadcasting."

This model presented by Mr. Eguchi has some things in common with what Nippon Television is attempting to build with its free "missed shows" streaming and Hulu. Streaming programs on the Internet in phases after its original broadcast is perhaps that the way television stations should go from now on.

"Changes in Viewing Habits Caused By Smartphones"

A panel moderated by media consultant Mr. Osamu Sakai described their products: Mr. Masahito Ota of Nippon Television Network Corporation the TV app "HamiTV;" Mr. Hidekazu Imatani of Dentsu Kansai the TV app "SyncCast;" Mr. Ayumu Yasuda, President of Garapon, his company's service.

■Connecting with smartphones to revitalize program viewing and to increase revenue

First, Mr. Sakai gave an overview of the relationship between televisions and smartphones. He presented data showing that close to 50% of people use their smartphones while watching television. He showed that, in addition to program viewing being revitalized by use of smartphones, revenue could be increased by the structure of the advertising.

■"Garapon" making "anytime, anywhere" a reality

"Garapon" is a piece of equipment that receives all programs on all channels of terrestrial television via 1seg and records them for a limited period of time. The video can be viewed on computers or mobile devices. It can be used from outside the home, so this service allows TV viewing literally "anytime, anywhere." It has a feature allowing users to discuss their thoughts on programs, as if on a SNS. This feature was emphasized as having the effect of revitalizing TV viewing.

■"SyncCast" makes possible banner ads synced with television ads

Mr. Imatani is a core member of the Multiscreen Broadcasting Study Group. The membership of this organization, with major Kansai stations at its center, has increased to 57 companies. Member stations use "SyncCast," an app developed by the organization, to provide additional information to viewers of their programs. One of the ways this could be done is by placing banner ads in conjunction with television ads.

■"HamiTV": a joint initiative of NHK and major stations

Mr. Ota is involved with the app "HamiTV," an initiative by five major stations in Tokyo and NHK. Focusing on the convenience of the user over even coverage of all stations, it is designed to present the hottest program information. Its aim is to foster more viewing among the demographics who watch TV, and to make TV appealing for the younger generation who tends to leave TV by using smartphones.

"Interactive TV: It's Present and Future"

This section was presented by Mr. Masayoshi Boku, Director of Bascule, and Mr. Takuma Kishimoto of Asahi Broadcasting Tokyo Branch. These two have made various attempts at making television interactive. They spoke on creative possibilities for broadcasting.

■Bascule: Aiming to be the new hero of space and the future

Bascule, led by Mr. Boku, produces content for the web. Focusing on creative two-way communication from the beginning, they have produced many websites. Starting in the 2010s, they have been taking on interactive projects for television broadcasting. They have accepted many offers such as *NTV × NHK Best of 60 Competition* from each television station, one after another, and have built up one of the most extensive such experiences in the industry. Mr. Boku recounts that they have been in involved in over 140 broadcasts in the past two years.

■Asahi Broadcasting: 1000 viewers together with Hybridcast

Mr. Kishimoto of Asahi Broadcasting has also been involved in many interactive systems making use of the Internet as an aspect of promotions by the station. One recent example was the "niconico-fied TV," for the program *Game King* on a local Kansai channel. It used the capacity of Hybridcast to overlay comments from Twitter onto the broadcast screen.

■Interest in "interactive" as an advertising strategy

Is the goal of bringing interactive features to television to have viewers share a "live" feel? "The Internet is decentralized," replied Mr. Boku. "Television has a certain common expectation, and interactive functions can meet that expectation and increase enjoyment." He added that the capacity of television to amplify makes it attractive to him as a creator. Mr. Kishimoto pointed out the possible effect: "Interactive functions could add extra value to live viewing, by having the viewer feel the simultaneousess," bringing them back.

"The Future of TV from the Perspective of Local Stations"

How can stations respond to higher quality broadcasting and time-shifted viewing and develop new business models? The discussion revealed that each station had started to attempt to do this, each in its own way. On the panel were Mr. Junichi Hirayama of Sendai Television, Mr. Hirokazu Shimauchi of TV-Setouchi Broadcasting, Mr. Nobumitsu Nagai of Mainichi Broadcasting, and Mr. Motoo Mouri of Fukuoka Broadcasting System. Moderator Mr. Yuji Suzuki of the Next Generation Media Research Institute posed themes of discussion to these four panelists.

■4K/8K considered for "delivery outside broadcasting"

4K/8K is a special requirement for programs to be viewed attention to the high-quality picture, and the possibility of delivering it outside regular broadcasting was mentioned. There have been actual cases of 4K production being requested, and the local stations' production capability may prove valuable in producing high-quality video.

■"Don't Think, Feel!" Stimulating the junior staff for new challenges

Mr. Shimauchi of TV-Setouchi used slides to present his company's incentives with Hybridcast. He also presented results of efforts using the Multiscreen Broadcasting Study Group's SyncCast. He concluded with the slogan "Don't Think, Feel!"

■Each company's bold approach to time-shifted viewing

Fukuoka Broadcasting System started offering its self-produced program Hakken Rakuchaku! through GYAO, a video streaming service. This program is popular locally, but has also become popular online and recorded over 1,000,000 views in September. This has given them confidence that it is possible to deliver to all of Japan, and even the world, from Fukuoka.

Sendai Television was given a mandate to increase revenue outside of broadcasting, and undertook a project called "Doctor Search Miyagi." It sounds like something that would be done by an Internet-based company, but they decided to try, thinking that perhaps bombarding a targeted area with television spots could result in a win. It has worked so well that they are working with other local stations to expand to other areas.

"How Will It Change? Like This!! The Front Line of Next-Generation Cable Business"

The first presentation of day three was a session with cable television industry as its theme. At first glance, it seems far removed from "integration with communications," but an interesting initiative was about to be started, something very similar to integration with communications.

■COTTIO: a Smart TV service for cable

Panelists Mr. Koji Takumi, Manager of Tonami Satellite Communications Television, and Mr. Masao Endo, Corporate Officer of Tokyo Cable Network, told us the view from the front lines at this session, moderated by Mr. Yukio Yanagisawa, Managing Executive, Japan Cable television Research and Information Center.

Mr. Takumi first described initiatives taken by a localized cable television station. Tonami Satellite, with Toyama prefecture cities Tonami and Nanto as its central service area, can be seen as a typical example of a cable station in Japan. With a local municipality as a stockholder, it is closer in function to local infrastructure involved with governmental services than to a media operator. New initiatives are being taken, including with cutting-edge technologies, but Mr. Takumi ardently described the difficulties.

Mr. Endo, also CEO of J.COTT Inc., explained the new Smart TV service that they have developed. COTTIO is a new type of STB (set-top box), developed to be used by each of the cable television providers. Endo developed his theory that cable television should be able to grow by overcoming obstacles as broadcasting becomes more sophisticated.

The overall impression of this presentation was that the cable industry is seeking to become a body to support the local area by adapting to new trends. Mr. Endo noted as a motivation for developing COTTIO that cable tends to be chided as being "old," but that is why he is returning to its roots, a provider of a local service.

"Video Streaming by Key Stations"

This presentation on day three had "Internet streaming by major stations" as its theme, and the persons responsible for the video streaming-business at Nippon Television, TBS Television, Fuji Television, and TV Asahi served as its panelists. All the seats were taken for this presentation with many more standing in the aisles, illustrating the high level of interest in this theme. The content was deep, and the atmosphere was enthusiastic from the beginning to the end.

■How major terrestrial stations are addressing unpaid streaming

On the panel were Mr. Masahito Ota of Nippon Television, Mr. Kaoru Sakamoto of TBS Television, Mr. Makoto Yamaguchi of Fuji Television, and Mr. Kazuyuki Maeda of TV Asahi. Mr. Ritsuya Oku of Dentsu Innovation Institute served as the moderator.

The business model of television stations for streaming until now had been paid on-demand services. Overseas, shows after its broadcast date with advertisements attached had become widely available free-of-charge over the past few years. However, in Japan, it had met challenges such as with advertising business and copyright, and with negative reaction from the talent, broadcast stations had not put much effort into its realization, either. In that climate, Nippon Television started in January what it called "anywhere, anytime campaign," an initiative to stream programs after their broadcast for free. Since July, advertisements have been added to the stream. In September, Chairman Inoue of the Japan Commercial Broadcasters Association announced, "we will contemplate all major stations jointly working on 'missed shows viewing.'" It was followed by TBS Television commencing its unpaid streaming.

■Each company and their efforts with the new "window" strategy

First, each panelist described the situation of the streaming business at his station. TBS Television started its initiative with paid content early, and has been in the black since 2012. Specific figures were not shown, but the growth of the on-demand business was shown as a graph, clearly showing a growth spurt for the fiscal years ending in 2013 and 2014. The potential for growth in the VOD business was made clear again. They have started streaming free-of-charge, though it is still in the pilot stages, and the number of views has exceeded 5,000,000 in a month.

Mr. Maeda of TV Asahi presented his company's video streaming activities so far. They are unique in that they have focused on making videos exclusively for the web, including spin-offs of their programs. Spin-off videos of "London Hearts," in particular—also popular in broadcast—have reached over 170,000,000 total views.

Mr. Yamaguchi of Fuji Television showed a matrix giving a general view of the different forms of video streaming initiatives. He stressed that his focus in the near future is "the top left," streaming free of charge. After researching trends overseas, he became convinced of its growth potential, and he passionately described how he is in the middle of convincing different sections in his company to get them involved.

Mr. Ota explained the whole of Nippon Television's video streaming business, from "The Second Nippon TV" to Hulu. As the new initiative, he described the significance of offering "missed shows" free-of-charge. The contact of youths with television has decreased rapidly in the past ten years as it shifts to mobile devices. "Addictive contents" such as social media and games are filling their time. For this reason, his belief is that television stations should create something that is available to them "anytime, anywhere." The new "window strategy" presented—real-time viewing, free streaming for a week, and then archived streaming on a paid monthly plan—should prove most useful in operating broadcast stations hereafter.

■"Placing videos with ads on various services"

Moderator Oku of Dentsu Innovation Institute Inc. showed slides of data from different angles. In accord with the discussion, most were about the youth leaving television. The most impressive was the graph predicting how much each age group would watch television, up to the 2020's. For example, viewing by people in their 30's is expected to drop dramatically in the next 10 years. People in their 30's in 10 years are in their 20's today, and this prediction was made taking into consideration that the habit of media consumption is not very likely to change with age.

Mr. Ota presented that idea that, on the Internet, there is no need to build a platform, but placing video content anywhere will result in business. He is looking at increasing revenue by placing videos with ads on various services. Mr. Yamaguchi concurred, commenting that "we often think that if we build a magnificent building, people will come, but from now on, I think we should be thinking of things as a portfolio."

To conclude, Mr. Oku asked about the place video streaming should occupy in the corporate strategy. All answered using the number "4," replying that the four media of terrestrial, broadcast satellite, communications satellite, and the Internet (TV Asahi included Media City to make it five) should be viewed together as one whole.

"Diversification of the Broadcasting Concept and Exploration of Business Options"

The last presentation to conclude three days of INTER BEE CONNECTED was a wrap-up discussion by all the members of the advisory board. They offered opinions from diverse angles. With the event's proposer Mr. Yasuji Eguchi as the moderator, panelists who have supported the realization of INTER BEE CONNECTED since the planning phase took the stage: Mr. Kiyoyasu Ando of Nippon Television, Mr. Hiroshi Saito of Mainichi Broadcasting, Mr. Mikio Tsukamoto of Fuji Television, and Ms. Keiko Murakami of NHK Broadcasting Culture Research Institute. These are all professionals who have been running at the forefront of broadcasting and communications. They reviewed the three days as the closing session, and discussed their thoughts on upcoming trends.

■The diversification of the broadcasting business

To begin, each described his impression of INTER BEE CONNECTED.

Mr. Eguchi reiterated his motivation for proposing INTER BEE CONNECTED, as he had elaborated on in his opening speech. He saw many overseas broadcasting events establish special features reflecting changes, and felt the need to do so in Japan also.

Mr. Tsukamoto commented that, as he was involved with Internet-related business at Fuji Television, "I had wondered how far we should go in making broadcasting more sophisticated or interactive, and whether it would succeed as a business model." Ms. Murakami also commented that "with so many systems having come into use, there was a gap that needed to be filled about whether they would be viable services, whether the need would be there also. We needed a place to debate those things," describing that she had felt the importance of INTER BEE CONNECTED.

Mr. Saito, as a central member of the Multiscreen Broadcasting Study Group, which has been doing many experiments mainly with major stations in Kansai, had also felt the same. He noted that having the opportunity to exhibit the study group at INTER BEE CONNECTED felt like a step of progress.

Mr. Ando explained that "until now, broadcasting had evolved with the aspects of production, transmission, and device as one unit—on one skewer, so to speak. But with the Internet and other technologies, both transmission methods and devices have become varied. We need to change the thinking in the broadcasting industry and need discussions 'without the skewer.'" He pointed to a need for the broadcasting business model to respond with flexibility.

■The diversification of new broadcasting and the original significance

The advisory board had spent over six months drawing up the plans for INTER BEE CONNECTED. During the event, they had participated in sessions and exhibitions from the standpoint of bringing this new function into the world. As such, each saw new movements in the multifaceted progress of television, and discussed their feelings and themes that will become key in the future.

Mr. Tsukamoto commented on the speech by Mr. Eric Solomon of Nielsen given on day one: "'C3' (viewership ratings for advertisements including data for three days of recorded viewing after broadcast) was a product of compromise. Sponsors wanted to pay only for viewing of the advertisements, and television stations countered that they want to include recorded viewing, as well. This would be difficult to implement in a short period of time, but evolution of viewership measurements like Nielsen's will become necessary in Japan as well. This is because measurement has the significance of showing the value of a business model." He thus emphasized the need for measuring various types of consumption in Japan also.

Ms. Murakami proposed, "Because television is integrating with the Internet, should we not restructure our role in society? Television had the public role of reaching people with information they were not actively looking for, so that they would become aware of it. Apart from the classic time-slotted format, a new format seems possible—perhaps 'spatial format.'" Emphasizing that television has a style different from existing Internet videos due to its public and societal function, he suggested, "would it be possible to have a subscription VOD platform common to all broadcasting stations," to facilitate this common goal?

Mr. Saito commented on the continued diversification of broadcasting from a perspective of a major Kansai station. "Television is a part of living. How the broadcast station becomes useful in life is different for each person, and I think it would also differ depending on whether it is a major station or a local station. I feel the time has come to rethink what the broadcasting station is. In our discussions, we may be using the same word, 'broadcasting,' but be picturing a different 'broadcasting.'"

■A place to discuss the broadcasting business of tomorrow

The comments of each member of the advisory board were filled with passion for broadcasting, as if fanned by the excitement in the atmosphere over the past three days. At this INTER BEE CONNECTED, many professionals of various standpoints gathered to contemplate the possibilities of the broadcast business. Many reconsidered the original significance of broadcasting, seriously thought about how things will change and how we should therefore respond, and showed how they were taking action. We look to future instalments of INTER BEE CONNECTED to keep functioning as a place to discuss the broadcasting business of tomorrow.
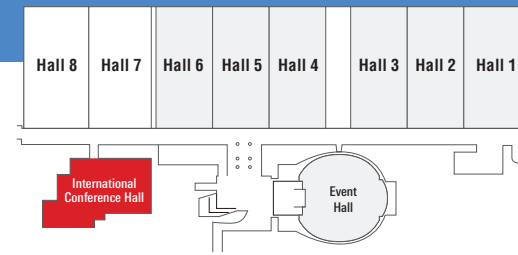
Hall 8 | Hall 7 | Hall 6 | Hall 5 | Hall 4 | Hall 3 | Hall 2 | Hall 1

International Conference Hall

Event Hall

INTER BEE CONTENT FORUM

▶November 19 (Wed) - 21 (Fri)
▶Venue : International Conference Room, 2F, International Conference Hall
▶Organizer : Japan Electronics Show Association(JESA)

Keynote Speech 1

U.S. Broadcasters: New Spectrum Challenges
10:30 ▼ 11:30
Mr. Sam Matheny
Executive Vice President and Chief Technology Officer, NAB

Keynote Speech 2

Towards a new broadcasting and Media Services Deployment
13:00 ▼ 13:40
Mr. Yasuto Hamada
Senior Director, Chief of Engineering, Japan Broadcasting Corporation

Keynote Speech 3

Session 1: Near-future Broadcasting Service and Media Strategy
Mr. Yasubumi Honma
Division President
Media Strategy office Tokyo Broadcasting System Television,Inc.

14:00 ▼ 14:50
Session 2: Video Content Production utilizing IP/Cloud
Mr. Nagisa Oyoshi
Technical Producer
Media Strategy office
Tokyo Broadcasting System Television, Inc.

Ms. Rumi Oku
Cloud Platform Sales Specialist
Google for Work
Google Japan Inc.

Mr. Ayatoshi Yoshidumi
President
Yoshidumi Information, Inc.

Special Session

11.19 (Wed)

The TOKUSHIMA method that enables simultaneous message emergency communication to everyone that has compatible TV set is becoming a national-scale social communication platform

15:00▶15:10 Guidance

15:10▶15:30 Speech
Evolving Optical Broadband Kingdom of Tokushima (Tentative)
Mr. Kamon Iizumi
Governor of Tokushima Prefecture

15:30▶15:45 Speech
An introduction to a new platform that melts the boundary between "mass" and "personal"
Ms. Haruka Nakamura
Cyber Business Strategy,
Nippon Televion Network Corporation

15:45▶16:05 Dialogue
"Assisting worry-free living and disaster prevention/mitigation for senior citizens"
Mr.Okinobu Seto
Society secretary-general,
Abu Voluntary Disaster Prevention

Mr.Koji Takechi
TV Programming Division,
Chief Director,
Shikoku Broadcasting Co., Ltd.

15:00 ▼ 17:30

16:05▶17:30 Panel Discussion
For nation-wide applications of the Tokushima method, a social infrastructure building that potentially solves certain Japanese social issues
Chairman
Dr. Jun Murai, Ph.D.
Dean/ Professor,
Faculty of Environment
and Information Studies,
Keio University

Panelists
Mr. Yoichi Ogasawara
Director ICT Strategy Policy Division,
Global ICT Strategy Bureau

Mr. Kamon Iizumi
Governor of
Tokushima Prefecture

Mr. Yoshinobu Kosugi
Board Director
Senior Executive Operating Officer,
Nippon Television Network Corporation

Mr. Takuya Kohara
Senior Managing Executive Officer,
General Manager,
Microsoft Japan Co., Ltd.

Invited Session 1

What future for broadcast technology?
10:30 ▼ 11:20
Mr. Peter White
Chief Executive, IABM

Mr. Peter Bruce
Director of APAC, IABM

Invited Session 2

11.20 (Thu) 11:30 ▼ 12:20
European broadcasting and its technology, past, present and future
Mr. Peter Owen
Chairman, IBC Council

Invited Session 3

12:30 ▼ 14:00
The Evolution of Media Workflows into the Cloud
Mr. Mark Ramberg
General Manager,
Media and Entertainment
Amazon Web Services, Inc.

Mr. Kiyonori Kitasako
Solution Architect,
Amazon Data Services Japan K.K

Invited Session 5

10:30 ▼ 11:20
IMF - Interoperable Master Format
Mr. Simon Roehrs
Regional Manager Broadcast Solutions and Applications
Rohde & Schwarz Japan K.K.

Invited Session 4

11.21 (Fri) 11:30 ▼ 12:20
All-IP Storage Infrastructure for Media & Broadcast
Mr. Charles Sevior
EMC Isilon CTO (Asia Pacific and Japan)
EMC Japan K.K.

Invited Session 6

12:30 ▼ 13:10
South American Broadcaster – What are the current challenges?
Mr. Olimpio Jose Franco
President, SET BRAZILIAN SOCIETY OF TELEVISION ENGINEERING

Visual Symposium

Current Situation and Problems of Ultra High Definition Video Production
MC
Mr. Hideichi Tamegaya
Councilor (Former Professor),
Joshibi University of Art and Design

Mr. Seiji Kunishige
Executive Director,
A Member of Executive Board,
NHK Art Inc.

Panelists
The Launch of 4K TV: Possibilities and Issues for Television Service Upgrading
Mr. keiya Motohashi
Head, Executive Office & Senior Strategist,
UHDTV & Smart TV Services NexTV (Next Generation Television) Forum Japan

11.20 (Thu) 14:30 ▼ 17:30

Points to Remember in the Mastering of 4K Contents Production
Mr. Akihiro Seino
Chief Researcher, Engineering Solution Unit,
Technology Research & Engineering Office, IMAGICA Corp.

Report from the 4K Drama Shooting Site
Mr. Tadashi Imai
Deputy Senior Advisor,
Sales Division Plan Sales Department, NTV Technical Resources Inc.

Arrival of the 4K Internet Delivery Era: Efforts and Challenges in "Hikari TV 4K"
Mr. Katsumi Nagata
Board Director, Executive Director,
Technology and Engineering Division, NTT Plala Inc.

Audio Symposium

Audio Over IP Technology and Applications
MC
Mr. Mick Sawaguchi
President,
Mick Sound Lab Inc.,
Fellow AES/ips

Mr. Toru Kamekawa
Professor,
Musical Creativity
and the Environment,
Tokyo University of the Arts

Panelists
The Outline of AES67 and Standards relating to Audio IP Transmission
Mr. Junichi Yoshio
Chief Researcher, Standards & Copyright Management Center,
Research & Development Division, Pioneer Corporation

Ravenna Technology Background and Applications
Mr. Dominique Brulhart
VP, Head Software Engineering, Merging Technologies

11.21 (Fri) 13:30 ▼ 16:30

DiGiGrid & SoundGrid Networking
Mr. Dan Page
DiGiGrid Sales Application Specialist,
International Sales
DiGiCo UK Ltd.

Coordinator
Mr.Satoshi Yamaguchi
Director, Media Integration, Inc.

RedNet and Dante in Broadcast and Post Production
Mr. Will Hoult
Product Manager, Focusrite RedNet R&D, Focusrite Audio Engineering Limited

ResoNetz Technology and Applications
Mr. Masahiko Tange
Representative Director, ResoNetz Inc.

INTER BEE TUTORIAL SESSION

▶November 20 (Thu) - 21 (Fri)
▶Venue : Room 101, International Conference Hall, Makuhari Messe
▶Organizer : Japan Electronics Show Association (JESA)

Audio Session
The Work Flow on File Base audio Production Part03

13:00 ▼ 14:30
Session A : What is an advantage on TV Postproduction by File Base
Mr. Kazuki Hayashi
Production Engineering Department,
Nagoya Broadcasting Network Co.,Ltd.

Mr. Yosuke Maeda
Product Specialist,
ROCK ON PRO, Media Integration, inc.

11.20 (Thu)

15:00 ▼ 16:30
Session B : Audio Postproduction techniques for Cameraman and Director
Mr. Kazutaka Someya
Sound Designer / Re-Recording Mixer, be Blue Co.,Ltd Tokyo Studio.

Visual Session
Basic for 4K Video Production (Shooting & Editing)

13:00 ▼ 14:30
Session C : Basic for 4K Video Production (Shooting & Editing) No.1
Mr.Hideo Kojima
Cameraman / President, CARDBANK Communication

11.21 (Fri)

15:00 ▼ 16:30
Session D : Basic for 4K Video Production (Shooting & Editing) No.2
Mr.Kazuhiko Horiguchi
Editor, Sound by S Limited

SPONSORED SESSION

▶November 20 (Thu) - 21 (Fri)
▶Venue : Room 104, International Conference Hall, Makuhari Messe

12:30 ▼ 14:30
Ultra High Definition SDI Towards a Hierarchy of SDI Data Rates

11.20 (Thu)

15:00 ▼ 17:00
Panel Discussion Strongly to disaster + loss, suggestions SD / HD / 4K video data storage simple
NEW MEDIA, Inc. / FOR-A / Video Tech Laboratories Inc.

10:20 ▼ 11:30
Do you know about the latest video distribution using Microsoft's cloud service? Easy-to-understand explanation with case studies and a demo
Mr. Daiyu Hatakeyama
Evangelist, Microsoft Japan Co., Ltd.

Mr. Jason Suess
Azure Media Service Live

Mr. Vishal Sood
Azure Media Service Contents Protection/Client Player

11.21 (Fri)

12:30 ▼ 14:30
IMAGICA HARBOR Video Production Flow Private Seminar
IMAGICA Corp./VASC Co.,Ltd./Toei Labo Tech Co.,Ltd.

50th Anniversary Event
INTER BEE EXPERIENCE

▶November 20 (Thu)
▶Venue : Event Hall, Makuhari Messe
▶Organizer : Japan Electronics Show Association (JESA)
▶Supported by SONY YAMAHA

| Hall 8 | Hall 7 | Hall 6 | Hall 5 | Hall 4 | Hall 3 | Hall 2 | Hall 1 |

International Conference Hall — Event Hall
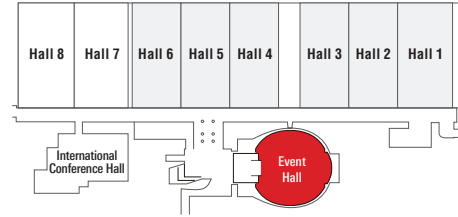
Japan first! Demo of Feeling, Excitement and Discovery

There would be a demo with the participation of acoustic companies for the first time at an exhibition in Japan. This provided the opportunity to take part in a mega-volume demo by line array speakers hung in a large space. This was an opportunity that had not been possible to experience at an exhibition. Many users felt the features and individualities of the products of each company and used this as a chance to select speakers and expand business opportunities.

Part 1: Line Array Speakers Demo & Presentation

▶Time: 10:30 a.m. – 4:40 p.m.
▶Support: Stage Sound Association of Japan / Japan Stage Sound Business Cooperative
▶Media Partners: Sound & Recording PROSOUND Stage Sound Journal SOUND

● Demo & Presentation program

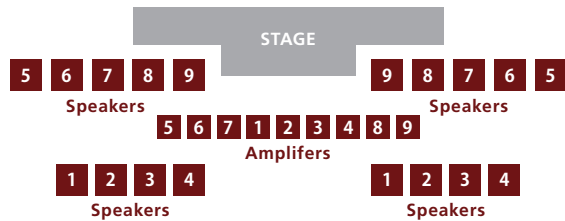|	Time	Brand	Product	Company
1	10:30 ▼ 11:00	d&b audiotechnik	Y-Series	OTARITEC Corporation
2	11:10 ▼ 11:40	TOA	compact array speaker HX-7	TOA Corporation
3	11:50 ▼ 12:20	JBL	VTX-V20	Hibino corporation
4	12:30 ▼ 13:00	Meyer Sound	MINA	ACOUSTIC TECHNICAL LABORATORY INC
5	13:30 ▼ 14:00	EAW	Anya System	ONKYO TOKKI LTD.
6	14:10 ▼ 14:40	MARTIN AUDIO	MLA multi cellular loudspeaker array	Martin Audio Japan
7	14:50 ▼ 15:20	NEXO	STM series	YAMAHA MUSIC JAPAN CO., LTD.
8	15:30 ▼ 16:00	L-ACOUSTICS	K2 System	Bestec Audio Inc.
9	16:10 ▼ 16:40	CODA AUDIO	LA12 3-Way line array module	Hibino intersound corporation

● Speaker Placement (2D)

STAGE

5 6 7 8 9   Speakers   9 8 7 6 5   Speakers
    5 6 7 1 2 3 4 8 9   Amplifers
1 2 3 4   Speakers   1 2 3 4   Speakers

● Common Demo Audio
Narration: Hitoshi Kubota (SIGMA SEVEN Co., Ltd)
Reiko Takagi (SIGMA SEVEN Co., Ltd)
Band: LiLi

From Japan! Live Entertainment Content

The 50th anniversary event was a live party emanating from Japan and being delivered around the world that would fuse together "video, sound, lighting and performance." This was a live party space for the next and future generations created through a joint production with Rhizomatiks, a new generation content creators group which is now attracting attention from around the world in addition to Japan.

Part 2: 50th Anniversary Live Party

▶Time: 5:40 p.m. – 7:40 p.m.
▶Live Entertainment Joint Planning: Rhizomatiks Co., Ltd.
▶Live Party Sponsor: ZIMA

● Live Party program

17:40 ▼ 18:00 Welcome time
Anniversary Live Party MC : Sascha
Supported by ZIMA

18:00 ▼ 18:40 Live Entertainment Co-Production by rhizomatiks

Technology is changing content production and imagination and the power to create content is evolving technology. The latest live entertainment born from the creative power obtained by technology was delivered to the next generation and the future with a collaboration stage of up-and-coming creators that Japan can be proud of.

Performance 1 :
SjQ++
The performance unfolded as the performers interacted with each other through their videos. Their form of expression crossed the boundaries of modern art, clubs, and electronic music. Performers added sound in real-time in response to the lights rendered in the video. That sound, in turn, formed an image. This incessant chain wove together sound, light, and graphics inseparably, presenting an original experience to the audience.

Performance 2 :
onnacodomo×Yuri Miyauchi
The unconventional JV unit onnacodomo creates live video using ordinary images. The artist Yuri Miyauchi plays solo and creates music in real-time. Their collaboration produced a unique live performance.

Performance 3 :
Rhizomatiks×ELEVENPLAY music : Ametsubu
The environment on the stage changes every second due to uncertain elements such as air flow, sound vibrations, and the movement of people. Drones are very susceptible to such effects, but the use of programming and technology in the battle to control its movement and the dancers performing in such a backdrop with perfect command of their bodies created a memorable collaboration.

DJ: **SETSUYA KUROTAKI**

18:40 ▼ 19:40 Party time
The Live Party commemorating this 50th event became a large communication forum for attendees and exhibitors to meet and interact. All were able to experience the birth of new collaborative teams.

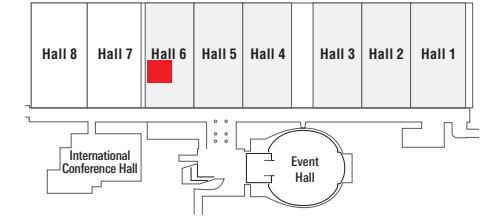Music by **LiLi** MC: **Sascha**

● Product and Equipment Sponsors

Sony Business Solutions Corporation
projector, 65 inch monitor, live camera, VJ camera, stage monitoring camera, camera for venue, master monitor, tabletop monitor

YAMAHA MUSIC JAPAN CO.,LTD.
flying speaker, ground stack speakers, power amps, mixing console/peripherals

AUDIO BRAINS Co., ltd
sub speakers for MC, sound pressure display

Canon Marketing Japan Inc.
fixed camera for stage

Roland Corporation
switcher for projector output, video mixer for VJ,

FOR-A COMPANY LIMITED
switchers for venue monitors, selectors

ADTECHNO Inc.
HDVaseT equipment

TEAC CORPORATION
wireless microphones, CD players

● Presentation Equipment Courtesy of
ENROUTE CO., LTD.
Multicopter

● Video Streaming Courtesy of
TECHNONET CO., LTD.

INTER BEE CONNECTED

▶November 19 (Wed) - 21 (Fri)
▶Venue : Exhibition Hall 6, Makuhari Messe
▶Organizer : Japan Electronics Show Association (JESA)

| Hall 8 | Hall 7 | Hall 6 | Hall 5 | Hall 4 | Hall 3 | Hall 2 | Hall 1 |

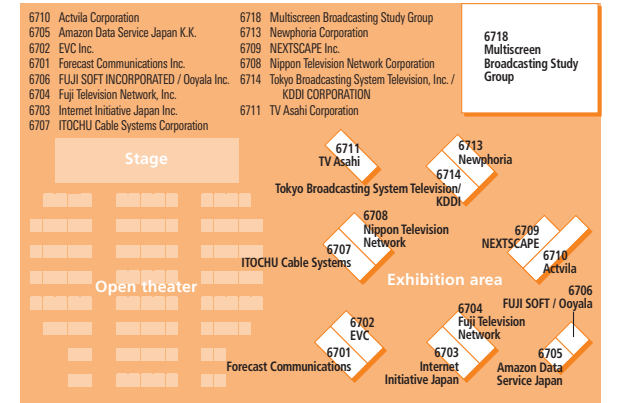International Conference Hall — Event Hall

Devices and viewing styles are changing. Digital marketing is evolving. Explore new TV business today.

INTER BEE CONNECTED was expanding as a place to promote the latest trends and stages of evolution in video and ICT, such as the possibilities for media business through the Internet and by link ups between broadcasting and communications, the progress of the utilization of the cloud as content production infrastructure, and the utilization of digital content and big data which will be essential in social systems in the future.
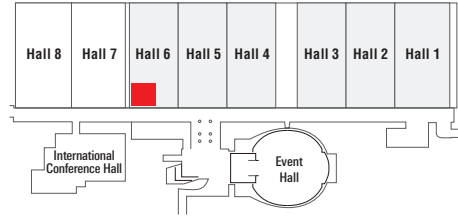
■ Layout

6710 Actvila Corporation
6705 Amazon Data Service Japan K.K.
6702 EVC Inc.
6701 Forecast Communications Inc.
6706 FUJI SOFT INCORPORATED / Ooyala Inc.
6704 Fuji Television Network, Inc.
6703 Internet Initiative Japan Inc.
6707 ITOCHU Cable Systems Corporation
6718 Multiscreen Broadcasting Study Group
6713 Newphoria Corporation
6709 NEXTSCAPE Inc.
6708 Nippon Television Network Corporation
6714 Tokyo Broadcasting System Television, Inc. / KDDI CORPORATION
6711 TV Asahi Corporation

6718 Multiscreen Broadcasting Study Group

Stage — Open theater — Exhibition area

6711 TV Asahi — 6713 Newphoria — 6714 Tokyo Broadcasting System Television/KDDI — 6708 Nippon Television Network — 6709 NEXTSCAPE — 6710 Actvila — 6707 ITOCHU Cable Systems — 6706 FUJI SOFT / Ooyala — 6704 Fuji Television Network — 6702 EVC — 6703 Internet Initiative Japan — 6705 Amazon Data Service Japan — 6701 Forecast Communications

■ Program

Time	Wed, Nov 19	Thu, Nov 20	Fri, Nov 21
10:10 ▼ 11:30	**Opening Speech** Increasing the Value of TV in Media and the Importance of INTER BEE CONNECTED Speaker Mr. Yasuji Eguchi, Yasuji Eguchi Office LLC.	**Changes in TV Viewing Habits Caused By Smartphones** Panelists Mr. Hidekazu Imatani, DENTSU INC. KANSAI / Mr. Masahito Ota, Nippon Television Network Corporation / Mr. Ayumu Yasuda, Garapon Moderator Mr. Osamu Sakai, OS zero	**How Will It Change? Like This!! The Front Line of Next-Generation Cable Business** Panelists Mr. Koji Takumi, Tonami Satellite Communications Television / Mr. Masao Endo, Tokyo Cable Network, inc / J.COTT Inc. Moderator Mr. Yukio Yanagisawa, Japan Cable Television Research Information Center
11:35 ▼ 11:50	**Presenting a Large-Scale Interaction Web Solution Using the Cloud** Forecast Communications Inc.	**The Possibilities of Video in the Cloud** Internet Initiative Japan Inc.	**Amazon Cloud Utilized Around Media** Amazon Data Service Japan K.K.
11:55 ▼ 12:10	**Cloud TV: A Next-Generation Content Management System That Automatically Generates Time-Shifted and Missed Content and Supports Monetization** ITOCHU Cable Systems Corporation	**Cases of 4K Streaming and Learning from Examples–the Value of Using the Cloud** NEXTSCAPE Inc.	**Presenting the Newest Examples of IP Simultaneous Broadcast Utilizing Cloud-Based "Microsoft Azure"** EVC Inc.
12:15 ▼ 12:30	**The Aim of Internet-based Pay Channel "Fuji TV NEXT smart"** Fuji Television Network, Inc.	**"TBS BooBo Cloud": A Program Production Support Tool Making Use of the Cloud** Tokyo Broadcasting System Television, Inc./ KDDI CORPORATION	**Multidevice VOD/Live Streaming Environment Realized Using a Cloud-Based Platform—Find New Value with Real-Time Viewing Data Analysis** FUJI SOFT INCORPORATED/Ooyala Inc.
12:35 ▼ 12:50	**The Merging of Mass and Personal: A Broadcast Platform Which Makes Possible Disaster Countermeasures and Support of the Elderly** Nippon Television Network Corporation	**Presenting an Example of a Cloud-Based Large-Scale Video Streaming Site** EVC Inc.	**The Merging of Mass and Personal: A Broadcast Platform Which Makes Possible Disaster Countermeasures and Support of the Elderly** Nippon Television Network Corporation
13:00 ▼ 14:50	**Keynote Speech Media Viewing Trends in the U.S.A. and the Newest Trend in Viewership Measurement** Speaker: Mr. Eric Solomon, SVP, NIELSEN Interviewer: Mr. Toshihiro Fukutoku, CEO, Nielsen Co., Ltd.	**The Future of TV from the Perspective of Local Stations** Panelists Mr. Junichi Hirayama, Sendai Television Incorporated / Mr. Hirokazu Shimauchi, TV SETOUCHI BROADCASTING CO.,LTD. / Mr. Nobumitsu Nagai, Mainichi Broadcasting System, Inc. / Mr. Motoo Mori, Fukuoka Broadcasting System Corp. Moderator Mr. Yuji Suzuki, Next Generation Media Reseach Institute	**Video Streaming by Key Stations** Panelists Mr. Masahito Ota, Nippon Television Network Corporation / Mr. Kaoru Sakamoto, Tokyo Broadcasting System Television, Inc. / Mr. Makoto Yamaguchi, Fuji Television Network, Inc. / Mr. Toshiyuki Maeda, TV Asahi Corporation Moderator Mr. Ritsuya Oku, DENTSU INC.
14:55 ▼ 15:10	**Multidevice VOD/Live Streaming Environment Realized Using a Cloud-Based Platform—Find New Value with Real-Time Viewing Data Analysis** FUJI SOFT INCORPORATED	**Multiscreen Broadcasting Study Group**	**"TBS BooBo Cloud": A Program Production Support Tool Making Use of the Cloud** Tokyo Broadcasting System Television, Inc. / KDDI CORPORATION
15:15 ▼ 15:30	**Cases of 4K Streaming and Learning from Examples–the Value of Using the Cloud** NEXTSCAPE Inc.	**Presenting a Large-Scale Interaction Web Solution Using the Cloud** Forecast Communications Inc.	**Cloud TV: A Next-Generation Content Management System That Automatically Generates Time-Shifted and Missed Content and Supports Monetization** ITOCHU Cable Systems Corporation
15:35 ▼ 15:50	**Amazon Cloud Utilized Around Media** Amazon Data Service Japan K.K.	**The Aim of Internet-based Pay Channel "Fuji TV NEXT smart"** Fuji Television Network, Inc.	**The Possibilities of Video in the Cloud** Internet Initiative Japan Inc.
16:00 ▼ 17:00	**Multiscreen Broadcasting Study Group** **Models of Advertising That Terrestrial Television Should Keep and Change** Speaker: Mr. Yasuji Eguchi, Yasuji Eguchi Office LLC.	16:00-16:15 **Interactive TV: Its Present and Future** Panelists Mr. Masayoshi Boku, Bascule Inc. / Mr. Takuma Kishimoto, Asahi Broadcasting Corporation Moderator Mr. Yasuji Eguchi, Yasuji Eguchi Office LLC.	**INTER BEE CONNECTED Wrap-Up Talk Session** Panelists Mr. Kiyoyasu Ando, Nippon Television Network Corporation / Mr. Hiroshi Saito, Mainichi Broadcasting System, Inc. / Mr. Mikio Tsukamoto, Fuji Television Network, Inc. / Ms. Keiko Murakami, NHK Broadcasting Culture Research Institute Moderator Mr. Yasuji Eguchi, Yasuji Eguchi Office LLC.

INTER BEE ASIA CONTENTS FORUM

▶November 19 (Wed) - 21 (Fri)
▶Venue : Exhibition Hall 6, Makuhari Messe
▶Organizer : Japan Electronics Show Association (JESA)

Hall 8	Hall 7	Hall 6	Hall 5	Hall 4	Hall 3	Hall 2	Hall 1

International Conference Hall
Event Hall

At the ASIA CONTENTS FORUM, with "from Asia to the world" as our theme, we focus on driven content creators as we cover a wide range of the newest trends in video. In addition to the newest trends and "making of" VFX by Hollywood creators, an exhibit of the latest post-production technology, and a recruiting booth, this year, we have also put a spotlight on women working in this industry, by holding the "Woman's Session." We will expand the horizon of Inter BEE from the ASIA CONTENTS FORUM.

Mr.Takafumi Yuki
Inter BEE Asia Content Forum Director

DigiCon6 ASIA Session

Made in Asia Creativity

11:00 ▼ 12:00

Mr. Katsuyuki Motohiro
Director & Producer
Planning Office,
Production I.G., Inc.

Ms. Kiki Sugino
Actress,
Film Producer & Director

MPTE Session [Inter BEE Exhibitor's presentation stage]
Presentations by member company of Motion picture and television engineering society of Japan Inc.

12:20 ▼	Opening Remarks
12:24 ▼	NEP inc.
12:33 ▼	NHK Media Technology, Inc.
12:42 ▼	Canon Marketing Japan Inc.
12:51 ▼	Kyoshin Communications Co.,LTD.
13:00 ▼	Quantel K.K.
13:09 ▼	Keisoku Giken Co., Ltd.
13:18 ▼	CINEMAX CORPORATION
13:27 ▼	Sony Business Solutions Corporation
13:36 ▼	Technohouse Inc.
13:45 ▼	Nac Image Technology Inc.
13:54 ▼	PHOTRON LIMITED
11.19 (Wed) 14:03 ▼	FOR-A COMPANY LIMITED
14:12 ▼	HOEI SANGYO CO., LTD.
14:21 ▼ 14:30	MITOMO CO., LTD.

4K New Wave Session Powered by COMMERCIAL PHOTO

Cinematography and Film Look in the 4K Era
Moderator Mr. Yasushi Kawamoto, COMMERCIAL PHOTO Chief Editor
Panelists

15:00 ▼ 16:00

Mr. Tetsuo Ohya
Chief Executive Officer,
Technical producer
Picture Element Inc.

Mr. Hideo Yamamoto
Cinematographer

Mr. Seiji Saito
Director,
DI Producer & Color Grader
Picture Element Inc.

Start of Movement in Still Image
Moderator Mr.Yasushi Kawamoto, COMMERCIAL PHOTO Chief Editor
Panelists

16:00 ▼ 17:00

Mr. Ryuichi Kataoka
Chief Executive Officer
VONS Pictures Inc.

Mr. Kento Kaneko
Producer
foton Inc.

Mr. Jun Urata
Retoucher
Hakuhodo Product's Inc.

JPPA Day
Presentations by member company of Japan Post Production Association

11:00 ▼ 11:20	Cinematography and Film Appearance in the 4K Era
	NTV Technical Resources Inc.
11:30 ▼ 11:50	Importance of Film in the 4K Era
	Tokyo laboratory ltd.
12:00 ▼ 12:20	Creation of Moving Image for 4K Subjective Evaluation
	Q-TEC INC.
12:30 ▼ 12:50	Producing TV Commercials with Subtitles
	digital egg inc.
13:00 ▼ 13:20	Short Film to Validate the 4K High Frame Rate I wonder why I like fireworks?
	RAY MCRAY
13:30 ▼ 13:50	Demo of 4K RAW Workflow! From Filming to Finishing
	EIKO INC.
11.20 (Thu) 14:00 ▼ 14:20	Getting Familiar with 4K --4K Image Solutions in Panasonic Images--
	Panasonic Visuals Co., Ltd.
14:30 ▼ 14:50	Production flow of Seibo Kiyomi Monogatari, daytime drama jointly produced by Tokai TV and TSP
	Tokyo Sound Production Inc.
15:00 ▼ 15:20	3DXcite Deltagen Interactive Art Event Dongfeng Nissan: X-Trail Launch 2014 in Chengdu
	DIGITAL GARDEN INC.
15:30 ▼ 15:50	Live-Action Film Patlabor: From Filming to CG Synthesis
	OMNIBUS JAPAN Inc.
16:00 ▼ 17:20	JPPA AWARDS 2014 Discussion with Golden Time staff who won the METI Prime Minister's Award!
17:30 ▼ 19:00	Production & Creator's Night

VES Session

Future of VFX
Special Guest

11:00 ▼ 12:00

Mr. Jeff Kleiser
Visual Effects Supervisor
CEO and Cofounder,
Synthspian Studios

Mr. Eric Roth
Executive Director,
Visual Effects Society

Woman's Session

Keynote speech
Making Movies for the 'Big Screen' with a Small Camera. The Story Begins…

13:00 ▼ 14:00

Ms.Mami Sunada
Film director

Panel Discussion
Creating Hit Contents from a Woman's Perspective
Moderator

Ms. Sachiko Fumoto
Operating Officer of Nikkei BP Institute of Consumer Trends
Ex Nikkei Woman Publisher

Panelists

14:30 ▼ 16:00

Ms. Hiroko Osawa
Producer and Deputy Manager
in charge of Information
and Culture Department,
Nippon Television Network Corporation

Ms. Yukiko Nagayama
Manager in charge of
TV Programming Department,
Tokyo Broadcasting System Television, Inc.

11.21 (Fri)

Production & Creator's Night at Inter BEE 2014

Exhibition Hall 6, Makuhari Messe **11.20(Thu)** 17:30 ▶19:00

To give people a chance to familiarize themselves with not only video equipment but also the latest video works themselves, we held the Production & Creator's Night, a networking party with digital CG/VFX creators in cooperation with people from CG/VFX production who represent Japan.

Simultaneous Events

Hall 8	Hall 7	Hall 6	Hall 5	Hall 4	Hall 3	Hall 2	Hall 1

International Conference Hall
Event Hall
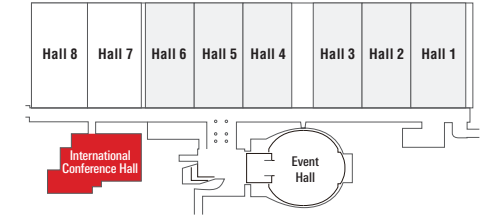
The 2nd Japan Post Production Conference 2014

▶November 19 (Wed)
▶Venue : Conference Room 101, 1F, International Conference Hall, Makuhari Messe

▶Organizer : Future Media Concepts   ▶Cooperation : Inter BEE NABSHOW   ▶Sponsor : motion elements

The training event with 10 years' experience at NAB Show was held at Inter BEE 2014.

Clearing Barriers of Time and Cost, but Keeping Quality and Passion!

The Best Selection from all the topics of the Post Production Conference at NAB Show

| 09:00 ▼ 10:45 | **Session 1** **Apple Final Cut Pro X - Finishing Techniques** Mr. Abba Shapiro |

This session covered both audio finishing and color grading techniques in Final Cut Pro X. The audio finishing part included: Working with Audio Meters and Waveforms, Audio Equalization across clips, Crossfading between Clips, Panning Audio, Configuring Audio Channels, Breaking Apart Audio Clips, leveraging audio effects and so on. The color grading part explored: Using Video Scopes, Applying Automatic Color Adjustments, Using the Color Board, Understanding Shot Matching, Matching Clips Automatically, Matching Clips Manually, working with skin tones, leveraging vignettes and power windows, and creating stylized looks

| 11:00 ▼ 12:45 | **Session 2** **DaVinci Resolve Color Grading** Mr. Robbie Carman |

From Hollywood blockbusters and primetime television shows to independent features and music videos, more projects have trusted the power and precision of DaVinci Resolve then another other dedicated piece of color grading software. This session was a fast-paced look at DaVinci Resolve. It covered the essentials of getting footage and projects into Resolve, how the interface works, making primary and secondary corrections, stylizing footage and rendering footage.

| 11.19 (Wed) 14:00 ▼ 15:45 | **Session 3** **Effective Metadata & Media Management Workflows** Mr. Abba Shapiro |

This session covered strategies, hardware, and software solutions that can be used in the field to capture, back-up, tag, transcode, and manage media during production. It also covered best practices regarding organization, logging, and detailed note taking. It also explored the benefits of having the editor on set to further reduce risk and improve turn around time during the editorial process.

| 16:00 ▼ 17:45 | **Session 4** **Finishing Techniques For Broadcast** Mr. Robbie Carman |

This session covered finishing steps including tasks like checking for gaps, bad transitions, blanking, bug and title safe violations as well as other visual errors. It also explored the essential aspects of color correction and broadcast legalization and graphics finessing. It covered how to build a complete finishing workflow for individuals, small teams, and large groups.

Lecturer: Mr. Abba Shapiro

Abba Shapiro is an award-winning writer/producer/director with over 25 years' experience in video and film production. His production company, Shapiro Video & Multimedia, works in every format from DVCAM to HD to 35 mm film. Abba has done work for a wide range of commercial, corporate, and federal clients, including USA Today, The Associated Press, NASA, The CW, and the Department of Defense. In addition to doing production work, Abba is a lead instructor for Apple's Pro Video Applications Certified Training Program.

Lecturer: Mr. Robbie Carman

Robbie Carman is part of the first generation of certified Apple Final Cut Pro instructors. Currently, he is certified to teach Final Cut Pro, DVD Studio Pro, Aperture, Motion, and Color. Robbie is the co-author of several books and has served as technical editor for others including: Final Cut Pro Workflows: The Independent Studio Handbook with Jason Osder, Final Cut Studio On The Spot 3rd Edition with Richard Harrington and Abba Shapiro, Color by David Gross and Michael Wohl, The Encyclopedia of Color Correction Filed Techniques Using Final Cut Pro by Alexis Van Hurkman. Recently, Robbie also completed Color Essential Training for Lynda.com

The 51st JBA Symposium of Broadcast Technology

▶November 19 (Wed) - 21 (Fri)
▶Venue : 3F, International Conference Hall, Makuhari Messe
▶Organizer : The Japan Commercial Broadcasters Association

	Room 301	Room 302	Room 303
11.19 (Wed)	Production Engineering (10:55▶17:10)	Transmission (10:30▶12:10) / Network Linkage / Communication (13:00▶17:10)	Sound Broadcasting / Audio (10:30▶16:45)
11.20 (Thu)		Special Program (13:30▶16:00)	
11.21 (Fri)	Broadcast Operation (10:30▶16:20)	Datacasting / Digital Service (10:30▶13:50) / Pictorial Image Technology (14:15▶16:20)	Production Engineering (10:30▶14:40) / Information Technology / Network (15:05▶17:10)

NHK Media Technology, Inc.
Technology Exhibition marking the 30th anniversary of the foundation

MT+1

▶November 19 (Wed) - 21 (Fri)
▶Venue : Convention Hall A, 2F International Conference Hall, Makuhari Messe
▶Organizer : NHK Media Technology, Inc.
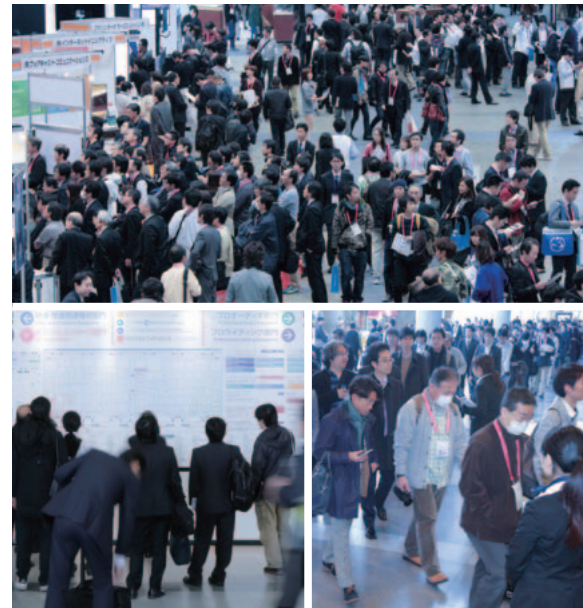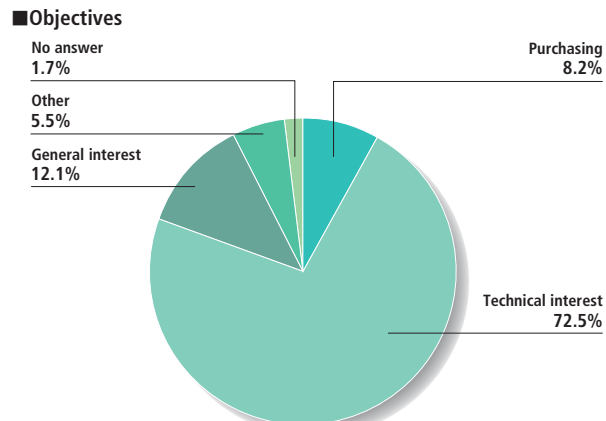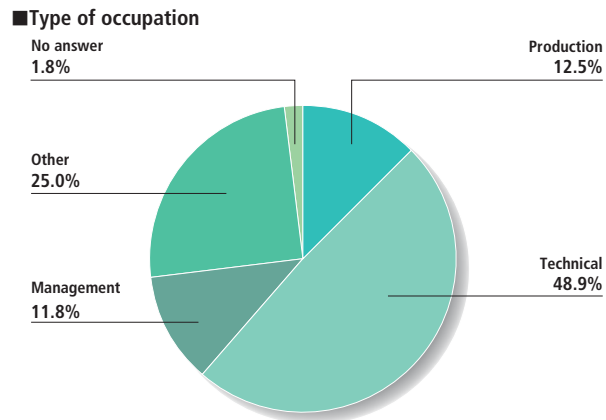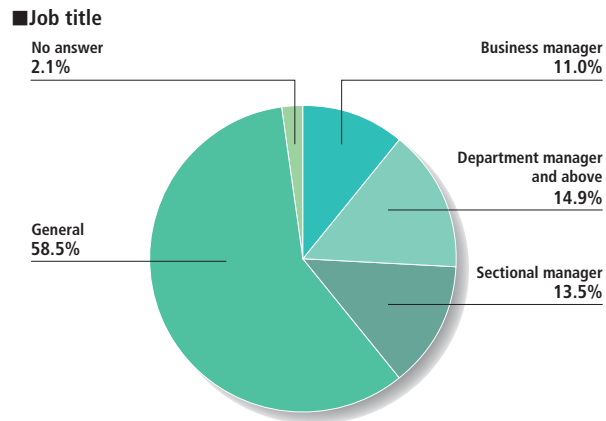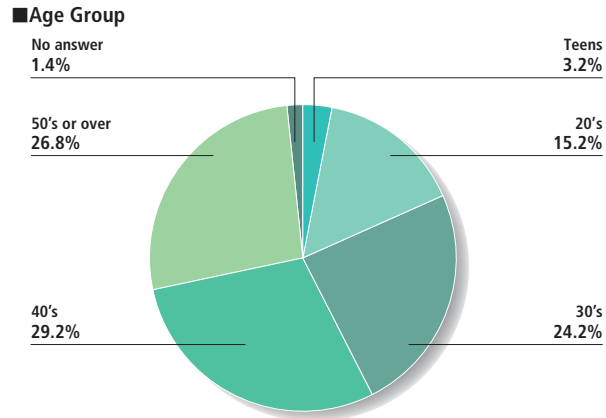
ZENEIKYO Forum 2014 in Makuhari

▶November 20 (Thu)
▶Venue : Tokyo Bay Makuhari Hall, APA Hotel & Resort
▶Organizer : National Board of Regional Visual Industry Associations

Result: Visitor Profile

■Breakdown of registered visitor number

	11.19 (Wed.)	11.20 (Thu.)	11.21 (Fri.)	TOTAL
Domestic	11,142	13,576	12,101	36,819
Overseas	467	422	251	1,140
TOTAL	11,609	13,998	12,352	37,959

No. of visitor:

37,959 people (Record-high)

■Breakdown of registered visitors

Area	Number of countries & region / Number of visitors	Breakdown of visitors by country & region
Domestic	1country / 36,819	Japan 36,819
Asia	12 countries & region / 673	Korea 320 / Thailand 97 / Taiwan 72 / China 48 / Hong Kong 46 / Indonesia 29 / Singapore 27 / Philippines 16 / Malaysia 9 / Sri Lanka 6 / Vietnam 2 / Bangladesh 1
North, Central and South America	8 countries / 105	U.S.A. 73 / Canada 9 / Brazil 9 / Argentina 5 / Mexico 5 / Chile 2 / Uruguay 1 / Paraguay 1
Oceania	2 countries / 5	Australia 4 / New Zealand 1
Middle East / Africa	5 countries / 9	UAE 3 / Saudi Arabia 2 / South Africa 2 / Israel 1 / Botswana 1
Europe	15 countries / 97	Germany 28 / United Kingdom 23 / Sweden 8 / Spain 7 / Italy 5 / France 5 / Belgium 4 / Portugal 4 / Russia 4 / Czech 2 / Norway 2 / Romania 2 / Austria 1 / The Netherland 1 / Hungary 1
Unknown		251
	43 countries/ region	37,959

◆Visitor demography

■Age Group

- No answer 1.4%
- Teens 3.2%
- 20's 15.2%
- 30's 24.2%
- 40's 29.2%
- 50's or over 26.8%

■Job title

- No answer 2.1%
- Business manager 11.0%
- Department manager and above 14.9%
- Sectional manager 13.5%
- General 58.5%

■Type of occupation

- No answer 1.8%
- Production 12.5%
- Technical 48.9%
- Management 11.8%
- Other 25.0%

■Objectives

- No answer 1.7%
- Purchasing 8.2%
- Other 5.5%
- General interest 12.1%
- Technical interest 72.5%

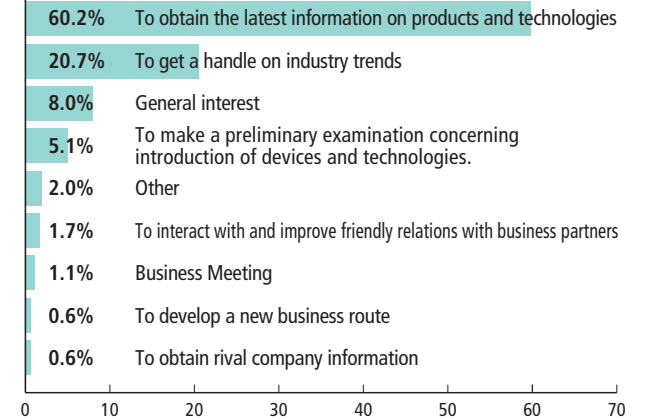## ■Type of Business

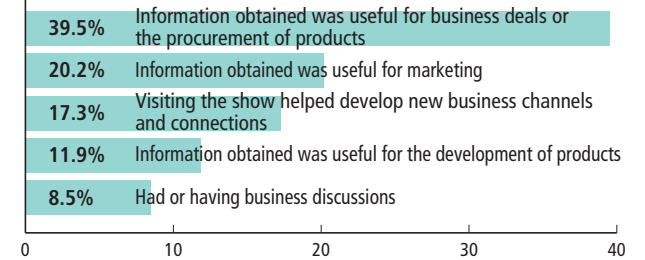|			
Equipment Manufacture	13.8%	Related Contents Publishers	2.7%
Other User	9.4%	Related Staging, Art and Lighting	2.6%
Commercial TV Broadcaster	8.9%	Related CATV	2.4%
Other	8.5%	Related Internet Business	2.4%
Post production	7.7%	Government office, Organization	2.0%
Film and Video Production Company	5.8%	Facilities and Stores	1.6%
Student	5.7%	Ad Agency	1.1%
Trading Company	5.5%	Video Software Production Company	1.0%
Production House	4.4%	Content Delivery Network	0.9%
Related PA Equipment	4.1%	Radio Station	0.7%
State-run Broadcasting Station	3.8%	Recording Company	0.6%
Telecommunications Carrier	3.2%	No Answer	1.2%

■Interest (Multiple answers accepted)

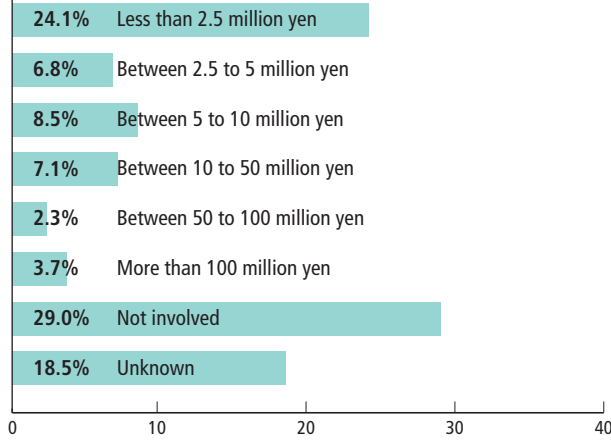|			
Video Equipment	54.2%	Transmission Systems	8.8%
Audio Equipment	32.5%	Digital Cinema	8.3%
Camera	27.8%	Multimedia System	8.3%
Editing and Production Equipment	20.5%	Lighting Equipment	8.1%
Electronic Display	16.2%	Stand-by and Peripheral Products	7.8%
Software	11.6%	IPTV	7.5%
Mixer	11.2%	3D	7.5%
Speaker	11.2%	Mobile TV	6.2%
VTRs, Memory Cards, Optical Disks	11.2%	Measuring Equipment	5.7%
Servers, Storage	11.0%	Production Management Systems	4.6%
Microphone	10.1%	Art and staging	3.9%
Digital Contents	10.0%	Electronic Power Unit	3.4%
Relay System	9.8%	Other	2.1%
Digital Signage	9.8%	No Answer	1.3%
Output System	8.7%		

Visitor Questionnaire result

◆What was your goal in coming to "Inter BEE 2014"?
(Multiple answers accepted)

60.2%	To obtain the latest information on products and technologies
20.7%	To get a handle on industry trends
8.0%	General interest
5.1%	To make a preliminary examination concerning introduction of devices and technologies.
2.0%	Other
1.7%	To interact with and improve friendly relations with business partners
1.1%	Business Meeting
0.6%	To develop a new business route
0.6%	To obtain rival company information

◆Was your visit to Inter BEE 2014 valuable?
(Multiple answers accepted)

39.5%	Information obtained was useful for business deals or the procurement of products
20.2%	Information obtained was useful for marketing
17.3%	Visiting the show helped develop new business channels and connections
11.9%	Information obtained was useful for the development of products
8.5%	Had or having business discussions

◆To what degree are you involved in the process of purchasing products/services in your company?

- None of these match my criteria 25.1%
- Authorized to make purchase or introduction decisions 23.0%
- Gather information for reviewin making a purchase or introduction 27.8%
- Asked for opinion or do training for making a purchase or introduction 24.1%

Involved in the purchase and introduction:

74.9 %

◆How much is annual budget you are involved in the process of purchasing products/services?

24.1%	Less than 2.5 million yen
6.8%	Between 2.5 to 5 million yen
8.5%	Between 5 to 10 million yen
7.1%	Between 10 to 50 million yen
2.3%	Between 50 to 100 million yen
3.7%	More than 100 million yen
29.0%	Not involved
18.5%	Unknown

0　10　20　30　40

◆How satisfied are you with Inter BEE 2014

Very satisfied 38.4%
Somewhat satisfied 42.6%
Hard to say 13.3%
Somewhat unsatisfied 5.1%
Unsatisfied 0.6%

Satisfied: **81.0**%

■Changes in satisfaction degree

■ Very satisfied　■ Somewhat satisfied　■ Hard to say　■ Somewhat unsatisfied　■ Unsatisfied

Year	Very satisfied	Somewhat satisfied
2014	38.4%	42.6%
2013	28.7%	46.7%
2012	24.7%	46.8%
2011	22.9%	49.5%
2010	23.1%	45.0%

0　20　40　60　80　100
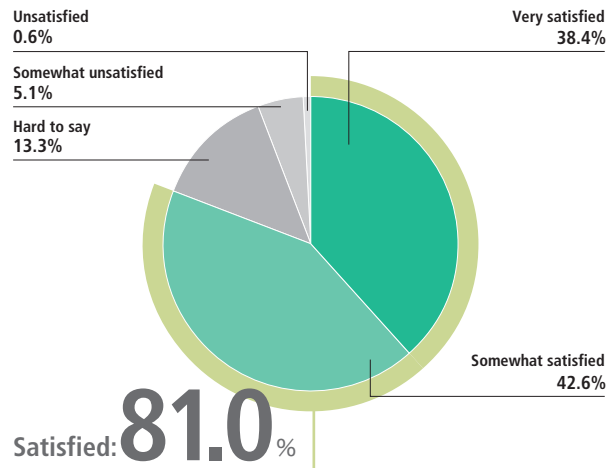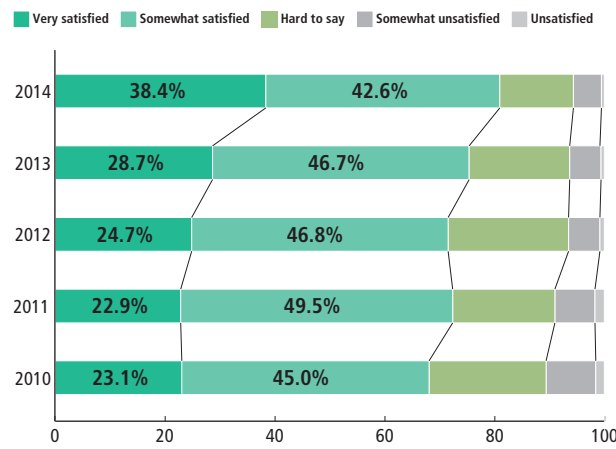
◆Do you plan to visit Inter BEE 2015?

Definitely plan to visit 60.8%
Plan to visit 32.1%
Undecided 6.0%
Do not plan to attend 1.1%

Planned to visit Inter BEE 2015:
92.9%
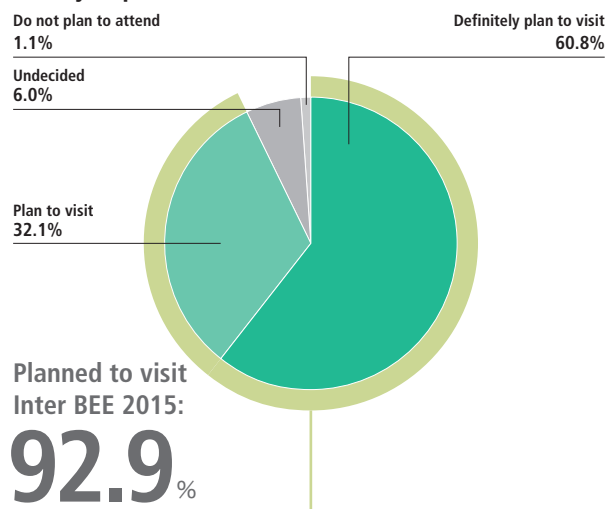
Result: Exhibitor Profile

■Number of exhibitors

Exhibition category	No. of exhibitors	No. of booth
Professional Audio Equipment	319	311
Professional Lighting Equipment	20	29
Video and Broadcast Equipment	563	1,317
ICT / Cross Media	75	116
Total	977	1,773

Exhibitors:
977 companies (Record-high)

■Breakdown of exhibitors

Area	Number of countries / region Number of exhibitors	Breakdown of exhibitors by country & region
Domestic	1 country / 434	Japan 434
Asia	7 countries and region / 77	Korea 24 / Taiwan 22 / China 20 / India 4 / Singapore 4 / Hong Kong 2 / Malaysia 1
North, Central and South America	3 countries / 212	U.S.A. 190 / Canada 21 / Brazil 1
Oceania	2 countries / 13	Australia 10 / New Zealand 3
Middle East	2 countries / 10	Israel 9 / Turkey 1
Europe	19 countries / 231	Germany 71 / United Kingdom 68 / France 18 / Italy 12 / The Netherland 12 / Switzerland 9 / Sweden 7 / Spain 6 / Belgium 6 / Denmark 5 / Norway 4 / Austria 4 / Finland 2 / Bulgaria 2 / Ireland 1 / Slovakia1 / Czech 1 / Portugal 1 / Lichtenstein 1
	34 countries and region	977

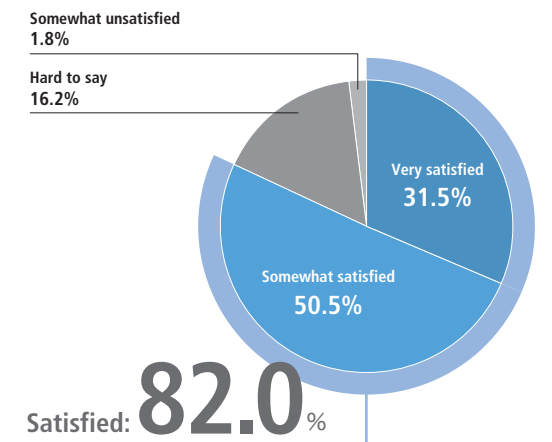**34** countries and region

No. of overseas exhibitors:
543 companies (Record-high)

◆What were your main objectives for exhibiting at Inter BEE 2014? (Multiple answers accepted)

81.1%	Sales promotion of products and/or technologies
80.2%	Marketing new products and technologies
71.2%	Seeking new clients in Japan
70.3%	Collecting information from visitors
47.7%	Strengthening relations with business clients
23.4%	Achieving business agreements
10.8%	Creating new overseas clients

0　10　20　30　40　50　60　70　80　90

◆How satisfied to accomplish your goal?

Very satisfied 31.5%
Somewhat satisfied 50.5%
Hard to say 16.2%
Somewhat unsatisfied 1.8%

Satisfied: **82.0**%

■Changes in satisfaction degree

■ Very satisfied　■ Somewhat satisfied　■ Hard to say　■ Somewhat unsatisfied　■ Unsatisfied

Year	Very satisfied	Somewhat satisfied
2014	31.5%	50.5%
2013	30.6%	56.1%
2012	25.9%	46.2%
2011	22.7%	57.7%
2010	23.4%	47.6%

0　20　40　60　80　100
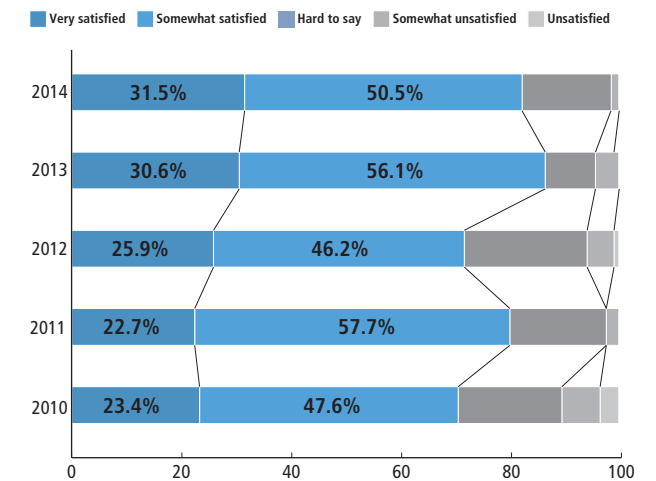
Result: Publication and Promotion

1. Publicity activities
(actual distribution of press releases)

Notification of start of exhibitor recruiting (3/3)
Notification of the holding of Inter BEE CONNECTED (7/15)
Notification of start of pre-admission registration (9/19)
Announcement of INTER BEE EXPERIENCE Outline (10/15)
Attracting interviewers (11/10, 11/17)
Announcement of Inter BEE CONNECTED Outline (11/14)
Information announcing the event (11/18)
Set up press room (11/19-21)
Reported completion (11/21)

2. News Media Representative

411 people (30 from overseas)

3. Number of articles in the printed media

	No. of articles
Before the show	139
During the show	29
After the show	101
Total	269

※as of 2015.1.20

4. Newspapers and Magazines Articles in Japan
(main publications)

APB (Asia-Pacific Broadcasting)	Nikkei Sangyo Shimbun
Automation Review	NIPPON CAMERA
B-maga	PRONEWS
Broadcast Engineering	Senka21
Dempa Shimbun	Stage Sound Journal
Dempa Times	SOUND DESIGNER
Eizo Shimbun	Sound & Recording Magazine
FD (Full Digital Innovation)	Tsushin Kogyo Shimbun
Kaden Ryutsu Shimbun	VIDEO JOURNAL
MJ	VIDEO SALON
NEW MEDIA	Video Tsushin
Nikkan Kogyo Shimbun	

5. On-air media

Japan	Fuji Television Network	New Weekly Fuji Remarks
	TV Tokyo	World Business Satellite
Europe	LCI	Plein Ecran- Inter BEE 2014 Report
	NTV24	CTS Salud Ciencia et Technologia
North and South America	AWE (All Wealth Entertainment)	Boys Toys
	IFC-TV	Interstitial news piece
	NTN24	CTS Salud Ciencia et Technologia
	RCN-TV	Main newscast

6. List of publication (Domestic)

Broadcast Engineering
CG World & Digital Video
Dempa Shimbun
Dempa Times
Eizo Shimbun
Full Digital Innovation (FDI)
House Organ of Japan Post Production Association
Broadcast Engineering
FDI
MJ
The Motion Picture and Television Engineering
NEW MEDIA
PRO SOUND
Sound and Recording Magazine
Stage Sound Journal
Telecommunication
Video Journal
Video Salon

7. List of publication (Overseas)

ABU Technical Review
Asia Pacific Broadcasting
AV Specialist
Broadcast India
Broadcast & Production
PA (Pro Audio)
Video Plus
Broadcasting Cable
Television Asia

8. Inter BEE Official Mail Magazine

Inter BEE sends News Center information, such as Inter BEE highlights and articles posted on Inter BEE Online, in e-mail magazine form to target visitors from the Inter BEE Visitor Database.

Approx. 82,000 ※The number of data instances that can be distributed

9. Inter BEE Official Website

◆Page views: **190,867** views (an increase of **130**% from the previous year)
(From November 1st to November 30th)

The Inter BEE Online Magazine helps people catch up instantly on the latest information from Inter BEE exhibitors, such as related events and the latest industry news all year round.

Number of articles posted before the show	**51**
Number of articles posted during the show	**49**
Number of video clips posted during the show (Inter BEE TV)	**53**

10. Official Facebook

◆Number of Likes received post conference:

3,200 Likes (an increase of **132**% from the previous year)

◆Number of page transfers from the Facebook page to the Official Website:

17,718 (an increase of **112**% from the previous year)

11. Official Twitter

◆Number of Twitter Followers (at max):

561 followers (an increase of **165**% from the previous year)

◆Number of tweets related to Inter BEE:

7,206 tweets

*Tweets including the keyword "Inter BEE" in either English or Japanese (katakana)

12. Media partners

Related industry journals and magazines helped support Inter BEE as media partners, graciously publishing many articles on the exhibitors.

◆ **Venue**

Makuhari Messe, Inc.

Kazuhiko Ishihara	Morito Yarita
Keisuke Takada	Shinya Kato
Yusuke Yamamoto	

Messe Travel Service Co.,Ltd.

Tatsuya Nakanishi	Eri Shiraishi
Kiyotaka Mochiduki	

◆ **Internet Connection**

Information Machine Room in Messe

Toshihiro Matsuda

DAIDEN

Masaki Nemoto	Syouta Isikawa
Hayato Nagayama	Katsutoshi Shimizu
Kimiya Kawano	Katsutoshi Kawano

◆ **Antenna Installation**

Thofuna Visual Corporation Ltd.

Masanori Shishikura	Yasushi Kaneko
Maiko Yamada	Toru Miyazaki
Touiti Tomiyama	

◆ **Cleaning Venue**

Chibaken Bldg-Maintenance Corp.

Makoto Aihara	Kiyokazu Sato
Takashi Hayakawa	Kenji Saito
Hitomi Matsuzawa	Kiyoshi Motoyama
Kazuyuki Tadokoro	Yukio Fukushima
Akihiro Suzuki	Mayumi Taniguchi
Rinko Daichi	Akane Ueno
Yoshiko Nagaoka	Katsumi Oikawa
Atsuko Nakano	Noriko Takita
Makoto Isomura	Hiroya Kozai
Fuuji Tamagawa	Norifumi Ishii

◆ **Bounded Goods**

Ishikawa-Gumi, Ltd.

Maki Hasegawa	Hidenori Saito
Hiroyuki Ishihara	Kazuhiro Hoshino

◆ **Catering Service**

Nilax Inc.

Ayako Kotani	Kei Shimizu
Takeshi Matsuo	Kenji Hamada
Hikaru Onda	

◆ **Hotel Reservation**

Kinki Nippon Tourist Co., Ltd.

Hiroshi Shimokawa	Yasuo Kodama
Isao Matsumoto	

◆ **Booth Construction**

Murayama Inc.

Kazunori Yamazaki	Masatake Onishi
Shota Akatsuka	Eni Cho
Nobuo Tamura	Yoshimichi Kumagai
Masaaki Matumoto	Naoko Satake
Hiroyuki Ueno	Tosiyuki Kawakami
Hiroaki Ogura	Youichi Ozawa
Tomohiro Miyazaki	Tomoyoshi Iwase
Toshiya Onishi	Tadashi Tujimura
Yoshiaki Okumura	Masaya Hayashi
Kiyoshi Saito	Jun Asakura
Eiji Ogawa	Shigeo Suetomo

◆ **Electrical Work**

Shoho Denki Co., Ltd.

Takatsugu Suzuki	Yukio Tsuihiji
Masayuki Hatano	Kenichi Tokita
Kenzo Ito	Akinori Suzuki

Suzuki Denki Co., Ltd.

Tomoyuki Suzuki	Takayuki Suzuki
Nobuo Iida	Hirotugu Koyano
Kenta Yaginuma	Masakazu Kishida
Kouya Nakamura	Tatunari Toda
Syuuzou Shibadai	Ayako Unosawa

◆ **PC & Equipment Rental**

Kissei Comtec Co., Ltd.

Junichi Narahashi	Mai Watanabe
Yuusuke Mochizuki	Kozue Yanagisawa
Yuuta Shinoda	Kana Tezuka

◆ **Bar-code System**

K's TandK, Inc.

Tsutomu Ikeda	Takeshi Suzuki
Osamu yamazaki	Tsuyoshi Hamada

◆ **Staffing for Managing exhibition**

Ken & Staff Co., Ltd.

Masaaki Yamamoto	Takeya Yamamoto
Masayuki Tokuda	Kazuya Nashimoto
Minoru Iida	Yousuke Tanaka
Nao Higashino	

◆ **Security Service**

Texs Co., Ltd.

Yusuke Tani	Hiroshi Ikegami
Yusuke Sato	Hironori Nakanishi

◆ **Lounge**

Marunouchi Hashizen Co., Ltd.

Hideaki Fujita	Takuma Hashiguchi
Michiyo Takeno	Chika Shimoda
Yuko Kawano	Akinori Hatuzawa

Wako Sangyo Co., Ltd.

Toshiaki Tanaka	Satoru Matushita
Takashi Sano	Makoto Kawaguti
Norio Uduki	Arihiro Kaneda
Mieko Nakamura	Yuriko Kawakami
Hiroshi Mori	

◆ **Planning of Inter BEE Content Forum**

Coordinators

Shuichi Tamegaya	Seiji Kunishige
Mick Sawaguchi	Toru Kamekawa
Isamu Yoshii	

◆ **Planning of Asia Contents Forum**

Director

Takashi Yuki

Deputy Director

Akira Sakamoto

◆ **Planning of INTER BEE CONNECTED**

Advisory Board

Kiyoyasu Ando	Yasuji Eguchi
Hiroshi Saito	Mikio Tsukamoto
Naoki Kobayashi	Keiko Murakami

◆ **Operating of Inter BEE Content Forum**

Ivy Planning Inc.

Masahiro Takayama	Ryuo Nagai
Yukio Murotani	Noriko Moriya
Hajime Tomiyasu	

Soundduck

Toshihiko Kirigaya	Takahiro Matsuo

Prism

Yasushi Matsuura	Kenji Kawakubo

Soundman

Atsushi Sasaki

Bayseas

Kazuhiko Nagashima

Christie Digital Systems

Hisayo Yoshida

Astrodesign Inc.

Hironari Matsuda

Japan Convention Services, Inc.

Tomoko Hori	Haruaki Suzuki
Syota Takada	Ryo Murakami
Yukiyasu Watanabe	Etsu Itaya
Kakuji Kamitani	Yayoi Oguma
Kazuko Okamoto	Ryoko Okamoto
Setsuko Koike	

◆ **Operating of Asia Contents Forum &
INTER BEE CONNECTED**

PCO Works, Inc.

Hiroya Ishizaki	Takayuki Fusada
Shino Tsutazawa	

On Time

Yuji Ono

Hibino Media Technical Corporation

Hajime Mouri	Hiroshi Iwasaki
Shota Taketaka	Satomi Ota
Hiroyuki Mori	Kenji Sakurai
Takashi Funagai	Kodo Yoshizawa
Yoshiki Kobayashi	Hisatake Sugita
Ken Higuchi	Kazuo Sakamoto
Kenji Oyanagi	

◆ **Joint Production of INTER BEE EXPERIENCE**

Rhizomatiks

Hidenori Chiba	Motoi Ishibashi
Daito Manabe	Ayako Watanabe
Tomoaki Yanagisawa	Youichi Sakamoto
Katsuhiko Harada	Toshitaka Mochiduki
Momoko Nishimoto	

◆ **Performer on INTER BEE EXPERIENCE**

SjQ++

Yuta Uozumi	Tadashi Yonago
Isao Nagaito	Wataru Asada
Shuhei Otani	KEZZARDRIX
Asari Daiki	

onnacodomo×Yuri Miyauchi

Ruka Noguchi	Yasuko Seki
DJ Codomo	Yuri Miyauchi

rhizomatiks×ELEVENPLAY

MIKIKO	KAORI YASUKAWA
Ametsub	

DJ

Setsuya Kurotaki

LiLi

Jiro	Hajime
Miyuki	Yukko
Katsuhiko	

Narration

Hitoshi Kubota	Reiko Takagi

MC

Sascha

Announce

Chizuko Ogawa

◆ **Operating of INTER BEE EXPERIENCE**

50th Anniversary Project Team

Yoshiki Takahashi	Hitomi Watanabe

CCN., LLC

Yoshiyasu Ando	Satoshi Oda
Shuhei Matsuhisa	Masahiro Furuhashi

Mind

Masanobu Nakakura	Toru Nishi
Mariko Yamashita	Taro Yamaguchi

CLAMP.,LLC

Shinichi Minami	Yasuhiro Abe
Norihiro Tsubuki	

Cinefocus Corp.

Toshiya Kato	Tomoaki Sano
Hideo Takahashi	Motohiro Yamazaki

Gonshiro

Toshiyuki Suginaka	Shinya Matsuda
Kojiro Kamimura	Syota Sekiya
Takuto Ohashi	Yuten Hou
Kazuma Maeta	

Team Ohuchi

Kenji Ohuchi	Toshikuni Hashimoto
Munechika Anda	Shingo Higashi
Tamiki Saitoh	Yosuke Amaha
Koki Tanaka	Hiroyoshi Shiga
Yuri Sudo	Jin Ohtsu
Keisuke Ando	Yukari Nishina
Kyoko Yuzawa	Hiromi Kobayashi

Chiba Kyoritz

Reina Shidara	Masaru Shimura
Nao Koyama	Hisayoshi Kase
Yoshie Kakisada	

VISUAL AND ECHO JAPAN

Tetsuya Fujiwara	Hidetoshi Seimiya

◆ **Promotion for Inter BEE**

Producer

Takashi Nakanishi	Takako Sugawara

Writer

Tomoko Asahina

◆ **Inter BEE New Center**

Producer & Management

Naoki Kobayashi

Reporter, photographing, editing

Tomomi Fukuda	Akemi Miura
Mayako Enomoto	Koji Suginuma
Yuichi Hashimoto	Masataka Sumikura
Naohisa Iwamoto	Kao Yamashita
Hiroyuki Kawata	Osamu Sakai
Toshio Matsumoto	Yuutaro Ougida
Masatoshi Moriyama	Hiroyuki Toyokawa
Naoki Watanabe	Kunpei Yamamoto
Takashi Sekine	Norihito Ohkawara
Hiroyuki Haga	Yasuhiro Yoshida
Akio Naitou	Ykayuki Kobayasi
Koutaro Tkeya	Kouichi Matsuzaki
Kouji Suzuki	Akira Hatakeyama
Hanako Ojiro	Eiichi Orimo
Yukina Mori	

◆ **Public Relations**

Inter MEDICOM Inc.

Mikio Horai	Youko Tsuru

◆ **Art Direction**

K-attack Inc.

Katsumi Miyasaka	Seiji Abe

◆ **Photography and Video**

Kurano Photo Office

Yukio Kurano	Takako Umehara
Masato Yoneyama	Akira Katou
Kazuto Hattori	

Hul-inc

Shigeharu Yoshihara

Freelance photographer

Midori Habuchi

Richfield Networks Co., Ltd.

Keiichi Kikuchi	Keiichiro Natsume
Natsumi Kageyama	Hiroko Toyohara

◆ **Website & Registration system**

Plott Corporation

Takayuki Komoda	Hidehiko Sakata
Gaku Kudou	Hideaki Ohama
Yoshimasa Urano	Yuta Satou
Shouhei Yoshida	Saori Kurimoto
Mio Satou	Tomoaki Kimura
Yuzo Hayakawa	Tatsuya Kinoshita
Syou Nishiyama	Takashi Nishimura
Takuya Yamashita	

Export Japan Inc.

Kenji Takaoka	Tu Fiona
Yuki Hirano	

Cheers Corporation

Yuzo Sakane	Takayoshi Doi

◆ **Printing & Novelty**

Eikosha Corporation

Kenichi Mizuno	Shinichirou Asami
Tomoko Tobiyama	

AD Corporation

Hitoshi Kuniyoshi

SHIMADA KISHO Co., LTD.

Yoshihiro Shimada

50th ANNIVERSARY

Inter BEE 2014
International Broadcast Equipment Exhibition