

# NICT NEWS

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## Special Feature on NICT Super Event 2009

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# "NICT Super Event 2009" : Gathering research results at NICT

Sharing current and future ICT in various programs such as exhibits and a symposium in collaboration with industry, academia and government

At CEATEC JAPAN 2009, the largest cutting-edge IT and electronics comprehensive exhibition in Asia [Oct. 6 (Tue)-10 (Sat), International Conference Hall/Makuhari Messe], NICT presented the "NICT Super Event 2009," with the theme:

**"To People, to the Earth, to the Future. The Latest Research in ICT."**

Visitors were welcomed with various programs such as exhibits of the latest research results, a symposium and seminars.

## Results Exhibited around Four Core Zones

For this NICT Super Event, we expanded the exhibition space and divided it into four zones, to present the exhibits in a way that was clear and easy to understand. The "New Generation Networks Zone," the "ICT for Safety and Security Zone," the "Universal Communications Zone," and the "Industry, Academia, and Government Collaboration Zone" were arranged surrounding the reception area.

## More Conveniently and Comfortably

In the "Zone for New Generation Networks," we introduced research and development on solutions to fundamental problems in networking not addressed by current technology. We also introduced other topics such as brain information and communications for future information and communications, which are modeled after brain function, and are part of our Biology ICT initiatives. We presented our R&D strategy for realizing the ideal network for 15 years in the future, called the "New Generation Network," and the

optical communications technology which will support high-speed, high-capacity data communications. We introduced a variety of technologies needed to provide reliable services anytime and anywhere, such as networking technology cooperating with both mobile devices and sensors, and cognitive wireless network systems that automatically select an optimized radio environment. We also introduced JGN2plus, which is used for demonstrative experiments and as a test bed for developing new technology for the New Generation Network.

## More Safely and Securely

In the "Zone for ICT for Safety and Security," we introduced security technologies protecting the safety and security of information and communications, technologies for measuring the electromagnetic environment, R&D on visualization technologies, and ICT for minimizing damage due to disaster or emergency. An example of this is the Network Incident analysis Center for Tactical Emergency Response (nicter), which analyzes the cause of an incident (security event) such as a virus, and quickly initiates an appropriate response. There were also various "survival mobile phones," which



are useful in times of disaster. We introduced several technologies that will be essential for information and communications in the future, such as electromagnetic measuring technology for understanding and improving the electromagnetic environment, as well as terahertz cameras.

### *More Delightfully and Creatively*

In the "**Zone for Universal Communications**," we introduced research for overcoming the barriers of language, culture and distance, to enable anyone to communicate freely with anyone else, and research to create more human-centered communication environments. For example, we described technologies from the "MASTAR Project," including a Portable Speech-to-Speech Translation System, language infrastructure technology, and Multi-lingual Translation System. This project centers in a global research and development for speech and language processing technology being promoted by NICT. We also presented some of the latest videos, audios and sensation leading-edge technologies providing a rich sense of presence to users in several hands-on exhibits, including a Large Screen 3D Display System not requiring glasses and a Multi-Sensory interaction system.

### *Stronger Collaboration among Industry, Academia and Government*

In the "**Zone for Industry, Academia, and Government Collaboration**," we introduced some of the research results coming from NICT collaboration with industry and academia. NICT has established various collaboration and support systems to comprehensively strengthen research and development in Japan. Several of these were exhibited, including "Exemplified Outcomes of Key Technology Research Promotion Program for Private Sector," and "NICT ICT Venture Subsidy Program and Best Practices." We also gave an overview of NICT transferable-technology patents and know-how.

### *Symposium & Seminars Discussing the Future of Information and Communications and Being Connected to Today*

One of the major components of "NICT Super Event" was the symposium, in which NICT discussed the future of information and communications. The symposium was held on the second day [Oct. 7 (Wed)] at the



International Conference Hall/Makuhari Messe, with five lecturers speaking on their views regarding the future (See P3-4).

Another major component of the Super Event was the seminars. There were three programs of seminars by CEATEC exhibitors, but only the two on Oct. 9 (Fri) were held due to a typhoon on Oct. 8.

The seminars were held in the CEATEC Exhibitor Seminar Hall in Exhibition Hall 5, the same as the NICT booth. NICT Seminars were held on topics including transferable seed technologies and the announcement of research results in universal communications support infrastructure technology, as used in the hands-on exhibits in the Universal Communications Zone (See P5).



### *Closing of Super Event 2009*

Approximately 150,000 visitors attended CEATEC during the five days of the event. The number of visitors to the NICT booth is estimated at about 44,000, so approximately 30% of CEATEC visitors came to the NICT booth. According to the results of a visitor questionnaire, many of the visitors came to CEATEC to find the NICT booth, and decided to visit. Exhibiting at a large-scale exhibition like CEATEC enabled NICT to raise its public presence.

One of the overall themes that attracted attention at CEATEC this year was 3D Video technology. Each day, there was a long queue of visitors to the 3D Display system not requiring glasses in the NICT booth. The exhibit in the Universal Communications Zone had much to appeal to the visual senses so the eye-catching content was expected to be popular. According to the visitor survey, however, there was also a lot of interest in the New Generation Networks Zone.



In addition to the exhibits, the symposium and seminars were also successful, having almost full attendance, so the five-day event really renewed interest in NICT's activities. NICT Super Event 2010 is also planned for next year. To all those who were only able to get a summary through this article this year, we encourage you to attend in 2010!

# Future of Information and Communications

## — NICT discusses its vision for the future of information and communications —

Symposium held at "NICT Super Event 2009"

During "NICT Super Event 2009", NICT held the "NICT Symposium" focusing on the future of information and communications, and on the latest R&D and projects being advanced. This was done to share its vision for the future with more people. The symposium was one of the events in the CEATEC conference.

### Five Lecturers on Views of the Future of ICT

A symposium with lectures from some of the leaders of R&D at NICT was held on the second day [Oct. 7 (Wed)] of "NICT Super Event 2009" at the International Conference Center/Makuhari Messe. The overall theme was "The Future of Information and Communications — NICT discusses its vision for the future —." NICT is unique as the sole research organization in Japan in the information and communications field, conducting research and development with a unified perspective, consistently covering everything from the fundamentals through to applications, and also providing support to businesses in the information and communications field.

At this symposium, we presented the latest research in Information and Communication Technology (ICT), and prospects for a vital and prosperous society in the future.

### Networks of the ear Future, Built on "Light"

The symposium began at 10:30. Hideo Miyahara, President of NICT, gave an opening address followed by the first lecture from Masayuki Murata, Deputy Director General of NICT Strategic Headquarters for New-Generation Network R&D. The New Generation Networks (NWGN) is one of the ICT infrastructure technologies that promises to provide radical solutions to the demands of society and to technical problems that cannot be solved through improvements on the current Internet in the next several decades. This first lecture introduced NICT's initiatives for the NWGN. In the future, instead of conventional infrastructure technologies whose purpose has been to simply increase the capacity of transmission paths, the problem will be to improve quality by any means possible. This is the basis for the R&D strategy that NICT has decided upon to meet the demands of society. The lecture gave an outlook on the importance of cooperation among industry, academia and government, and of international collaboration in achieving this, and also gave a roadmap of the technical R&D problems involved.

After that, Naoya Wada, a Group Leader from the New Generation Network Research Center, spoke about the latest research results related to optical network technologies, which will provide infrastructure supporting New Generation Networks. He described how NICT has developed the world's fastest optical packet switch, which does not convert signals from optical to electrical and has achieved ultra-high-speed transmission of 1.28 Terabit/s. He stressed that NICT will



● A View of the Symposium Venue



● Guests Listening Attentively to the Lectures



● Hideo Miyahara  
NICT President



● Masayuki Murata  
Deputy Director, Strategic  
Headquarters for New-  
Generation Network R&D



● Naoya Wada  
Group Leader, New  
Generation Network  
Research Center



● Shinji Shimojo  
Executive Director of Service  
Platform Architecture  
Research Center



● Kazuhiro Oiwa  
Director general of Kobe  
Research Laboratories



● Kazumasa Enami  
Director general of  
Keihanna Research  
Laboratories



● Masahiko Tominaga  
Vice President, Member of  
the Board of Directors

system consisting of roughly 14 billion nerve cells. Dr. Oiwa spoke of hopes that this most incredible capability of living beings will be applied to future communications technology infrastructure. He also talked about the integrated neurological information communications research being done at NICT to achieve these goals, making full use of the NICT's original advanced technology, including

continue to make improvements such as reducing power consumption in consideration of the environment, but that development of an optical packet/path-integrated network is needed in order to meet various requirements that users will have on the network flexibly. He also discussed his aspirations for realizing other leading-edge technologies such as multi-value transmission and multi-core optical fiber.

Shinji Shimojo, Executive Director of Service Platform Architecture Research Center gave a talk about JGN2plus, a new network test bed developed mainly by NICT. He described the role of JGN since it begun to support the expansion of broadband communications using optical fiber throughout Japan. He also described how JGN2plus was used to transmit a live video relay of the July 22 total solar eclipse to various regions. He talked about plans for the future, including experiments on technologies like network virtualization, which allows networks to be used more dynamically, and testbeds for new technologies like cloud computing. He also speculated that advanced technologies such as NICT's high-definition 3D images would be avail in every home in the future.

### *Making Use of Brain-function Research in Future Communications Technology*

The next speaker was Kazuhiro Oiwa, Director general of Kobe Research Laboratories, which had its 20th Anniversary this year. He spoke on the leading edge research at NICT in information and communications technology learned from the brain information. The brain is an extremely complex network

fMRI and other non-invasive brain function measurement equipment, at its disposal.

Finally, Kazumasa Enami, Director general of Keihanna Research Laboratories, spoke on research and activities in Ultra-Realistic Communications. He explained "Super Reality," which appeals to the five human senses using technologies such as 3D and ultra-high-definition images, and "Meta Reality," which goes even further to invoke deeper emotion and imagination. He then introduced developments being advanced at Universal Media Research Center, toward implementing "Ultra Reality," combining both of these definitions.

The venue was nearly full to its capacity of 200 people, and the symposium closed with an address by Masahiko Tominaga, Vice President, Member of Board of Directors. This was followed by an appearance by the speakers doing question and answer with the guests as they spoke about the future, creating an air of excitement.

#### **Lecture Program**

##### **R&D Strategies for the New Generation Network**

Masayuki Murata, Deputy Director, Strategic Headquarters for New-Generation Network R&D

##### **Infrastructure Technologies Supporting the New Generation Networks**

###### **— Towards Networks with No Apparent Restrictions for Users —**

Naoya Wada, Group Leader, Photonic Network Group, New Generation Network Research Center

##### **JGN-X, a New Testbed for Open Innovation**

Shinji Shimojo, Executive Director of Service Platform Architecture Research Center

##### **Information and Communications learned from Brain Function**

###### **— NICT is leading Brain Information Research —**

Kazuhiro Oiwa, Director general, Kobe Research Laboratories

##### **Future and Research Trends of Ultra-Realistic Communication**

Kazumasa Enami, Director general, Keihanna Research Laboratories

# Seminar Report

On October 9, two "Research Results Seminars" from the Universal Media Research Center and three "Transferable Seed-technology Introduction Seminars" from the Research Promotion Department were held with attendance nearly filling the capacity of 75 people. The "Industry-Academia-Government Collaboration" and "Support System Results" seminars that were planned for October 8th were cancelled due to a typhoon, but were presented in part on the next day in the Industry, Academia, and Government Collaboration Zone in the NICT exhibit booth.

## Seminars of Research Results Announcement

The first presentation was from Taiichiro Kurita, Group Leader of the 3D Spatial Image and Sound Group, Universal Media Research Center, entitled "Research on 3D Spatial Image and Sound Fundamental Technology for Ultra-Realistic Reproduction of 3D Images and Sound" He described an industry-leading electronic holography system capable of displaying live-motion video in real time, as well as prototype spherical and box-shaped speakers that can be used to realize 3D audio, through emission characteristics that differ in all directions.

After that, Hiroshi Ando, Group Leader of the Multimodal Communication Group, Universal Media Research Center, spoke on "Research on Multimodal Information System Technology Optimized for Humans" A sense of presence felt by humans is composed of three types of elements: (1) Spatial elements (e.g.: sense of depth and texture), (2) Temporal elements (e.g.: sense of synchronization between image and sound perceived at the same time) and (3) Physical elements (e.g.: a sense of self-awareness, that the user's body is actually in the location, or a sense of interaction, such as force feedback from operating an interface device). As one technical result, Mr. Ando introduced a Multi-Sensory Interaction System which is able to reproduce 3D images, sensation of touch and sound for important cultural property that would not normally be accessible. The system has potential for the future applications such as surgical training simulators.

## Seminar Introducing Transferable Seed-technology

The transferable seed-technology seminar began with "LEI-Camera (LEI: Live Electro-optic Imaging) which enables observation of images of RF Signal Propagation," given by Executive Researcher, Masahiro Tsuchiya. By using electro-optical effects organically together



● Lecturers Speaking Enthusiastically (Top from the left: Kurita, Ando. Bottom from the left: Tsuchiya, Maekawa, Kuroda)



● Participants Listening Attentively

with CMOS technology (CMOS: Complementary Metal Oxide Semiconductor), it has become possible to measure high-frequency signal propagation within circuits. This was not possible with earlier measuring devices. This technology is expected to have a strong effect on design and diagnosis of high-speed and high-frequency-signal circuits.

After that, Satoshi Maekawa, Senior Researcher of the Multimodal Communication Group, Universal Media Research Center spoke on a "Floating Image Interaction System." He introduced the image formation characteristics and technical background of the Floating Touch Display and described some of the ongoing problems to be improved upon, including the manufacturing precision, size and cost of the optical imaging element. The exhibit for this device had a long queue throughout the event.

Finally, Masahiro Kuroda, Manager of the Standardization Promotion Group, Research Promotion Department, gave a talk entitled, "Low-Power, Secure Wireless Sensors and a Watch-Over Network." This talk introduced a security system for managing biological information over wireless systems while maintaining security, based on a specification that NICT is working to have standardized as IEEE 802.15.6. Health management at home using this system is nearing practical use. He also introduced some new medical examination systems using this technology. These systems are the result of collaborative R&D projects involving Kanagawa Health Service Association, School of Medicine at Yokohama City University, and industry groups.

The seminars attracted such interest from visitors that after they were over, researchers were occupied fielding questions at the NICT booth till after closing time.

# Exhibit Descriptions

## "Zone for New Generation Networks" — More Conveniently and Comfortably —

■ Strategies for Establishing New Generation Networks  
— Vision of the Future Networks for the 15 years to Come —

■ Future Information and Communications Inspired by Human Brain Function  
— Brain Information and Communications Research Led by NICT — Introducing NIRS (Near Infrared Spectroscopy) and KARC (Kobe Advanced ICT Research Center)

### Advancing Optical Communications

■ Adopting Satellite Communications Technology for Terrestrial Communications  
— Optical Wireless Communications Exceeding the Terabit Level —

■ From Giga to Tera, and on to Peta  
— Integration Technology of Optical Path and Packet Format —

■ Enabling Ultra-fast Upload and Distribution of High-definition Images  
— Leading Edge Optical-Access Network Technology —

### Comfortable and Reliable Networks

■ Getting Information Needed "Now," "Here" and "for Yourself"  
— Networks in Liaison with Mobiles and Sensors —

■ Navigation for Networks in Traffic Congestion  
— Management & Control of Large-scale Networks —

■ New Global Standards for Effective Use of Wireless Resources  
— Cognitive Wireless Network Systems —

### Testbed Network

■ R&D on "JGN2plus" towards New Generation Networks

■ StarBED — Ubiquitous Network Simulator —

## "Zone for ICT for Safety and Security" — More Safely and Securely —

■ NICT's Safety and Security Technology Seen on the Ultra-high Resolution Display

■ EMC (Electromagnetic Compatibility) Measurement Technology for Improving the Electromagnetic Environment

Biomedical EMC

Amplitude Probability Distribution (APD) Measurement

Highly Sensitive Electromagnetic Field Measurement

NICT/EMC-net

■ Terahertz Technology for Realizing Safety and Security with ICT

■ Network Incident analysis Center for Tactical Emergency Response (nicter)

■ "Survival Mobile Phones" — Mobile Phones Useful in Disasters —

Dirt-resistant Mobile Phones Equipped with ID Reader

Mobile Phone Location System Identifying the User Position without GPS

Congestion Control Methods in Mobile Cellular Networks

Utilizing Access Points Run by Different Corporations for Emergency Communications

Wireless Cooperative Emergency Communications Model Utilizing Mobile Phones

Mobile Phones for Information Gathering and Sharing

RFID Based Emergency Information Gathering and Delivery System

## "Zone for Universal Communications" — More Delightfully and Creatively —

■ Large Screen 3D Display System not Requiring Glasses

■ Ultra-Realistic Sound System

■ Floating Touch Display

■ Multi-Sensory Interaction System

■ gCubik+i: Enabling Observation of a 3D Image after Picking It Up from an Illustrated Digital Reference Book

■ Multilingual Tourist Information Service System

■ Knowledge Cluster System

— Next-Generation Web Platform for Building "Knowledge Bridges" among Our Societies —

■ Web Information Analysis System: WISDOM (Web Information Sensibly and Discreetly Ordered and Marshaled)

### MASTAR (Multi-lingual Advanced Speech and Text reseARch) Project

■ Recipe Search /Recommendation System Utilizing WISDOM Automatically on WWW

■ "Ultra" Multi-lingual Translation System

■ Concept Dictionary

— An Auto-generated Web-Search Directory: Web Search Service for Automatic Word-Class Acquisition

■ Portable Speech-to-Speech Translation System

■ Multi-Perspective Image Creating System \*

■ 3D High-definition System \*

■ 4K Ultra-High-Definition Whole-Sky Image Transmission System \*

\* Joint development with the Ultra-Realistic Communications Forum (URCF)

## "Zone for Industry, Academia, and Government Collaboration" — Stronger Collaboration among Industry, Academia and Government —

■ Introduction to NICT System for Collaboration & Support among Industry, Academia and Government

■ Exemplified Outcomes of Key Technology Research Promotion Program for Private Sector

"Low-priced," "Quick" and "Precise" Solution for Counterfeit Prevention Technology Shachihata Inc.

Ultra-fast PON System Oki Electric Industry Co., Ltd.

Development of an Optically-Controlled Array Antenna for Satellite Communications Mitsubishi Electric Corporation

Control Technology for Wavelength-Dispersion Compensation towards All Optical Network Mitsubishi Electric Corporation

Radio Wave Receiving Equipment Using Magneto-Impedance Sensor Takion Co., Ltd.

IT Network with Sensors for Detection of Delivery and Estrus in Cattle WACOM-IT Co., Ltd.

■ NICT ICT Venture Subsidy Program and Best Practices

Next Generation Cloud Computing — XaaS on RCM (R&D Chain Management) — Quatre-i Science Co.Ltd.

Automated Operation and Display Test System for Digital Terrestrial Broadcasting Data Contents VALTES Co., LTD

Micro SD Cards Full of Digital Contents to Enjoy for Mobile Users Centrix Co. Ltd.

"SOKUTEN" Groupware for Human Resource Management Media 5 Corp.

■ NICT ICT Barrier-Free Subsidy Program and Best Practices

A Promotion Program for Universal Design: Developing and Providing Telephone Service Skills for Interacting with Elderly or Disabled People Pastel Labo Co., Ltd.

Real-time Subtitling on TV and Application to Terrestrial Digital Data Broadcasting for People with Hearing Difficulties CS Broadcasting Integration Institute for the Challenged People (NPO)

Communication Tools Utilizing Mobiles and Facsimiles UNICOM Co. Ltd.

DVD Subtitling Services on the Internet for People with Hearing Difficulties Q-TEC, INC.

■ Exemplified Outcomes of Keihanna Info-Communication Open Laboratory

■ Introduction of Seed Technologies

Visual Observation of Microwave Electric-field Distributions

NICT Incubations: The Technology Transfer Organization for NICT, certificated as a Technology Licensing Organization by Minister of Internal Affairs and Communications

Dependable Network System Allowing Remote Transmission of Vital Data

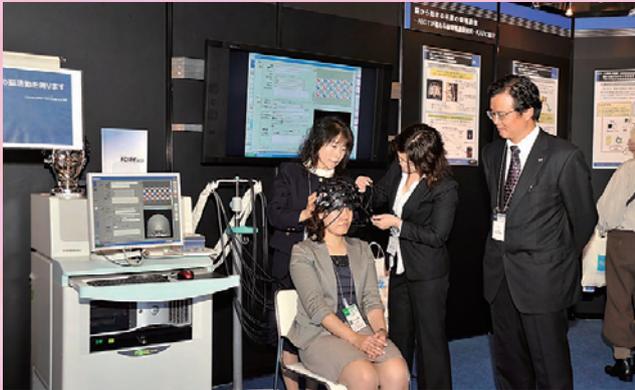
■ NICT Commissioned Research System for Advanced Communications and Broadcasting R&D — Service Control Architecture —

Collaborative Technology of Attestation and Services in Wide Area Networks

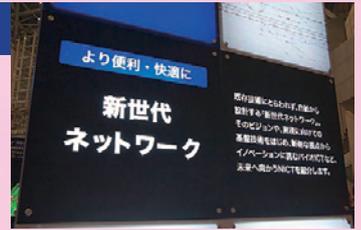
Technology Providing High-quality Service by Utilizing Network Quality Information

# To People, to the Earth, to the Future.

## Zone for New Generation Networks



Near-infrared brain-function imaging device capable of measuring how the human brain is working in its natural state  
 ("Future Information and Communications Inspired by Human Brain Function — Brain Information Research Led by NICT — Introducing NIRS (Near Infrared Spectroscopy) and KARC (Kobe Advanced ICT Research Center)")



Demonstration of an optical-wireless communications system, making use of inter-satellite optical communications research for terrestrial communications

("Adopting Satellite Communications Technology for Terrestrial Communications — Optical Wireless Communications Exceeding the Terabit Level —")

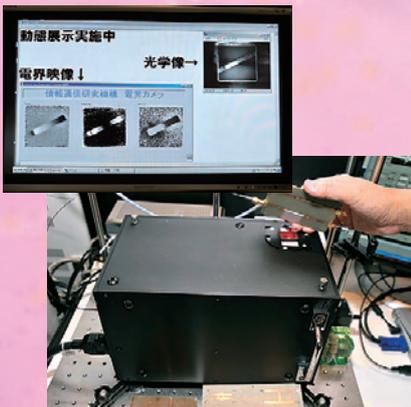


Designing a "New Generation Network" from a blank slate, not constrained by existing technology. Introducing the vision

("Strategies for Establishing New Generation Networks — Aiming at Ideal Networks Realized in 15 Years —")



## Zone for Industry, Academia, and Government Collaboration



Live electro-optic imaging camera; it provides real-time visual access to the microwave field distributions.  
 ("Introduction of Seeds Technologies")

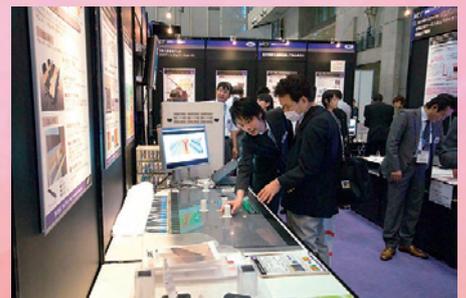


IT Network with Sensors for Detection of Delivery and Estrus in Cattle WACOM-IT Co., Ltd.

("Exemplified Outcomes of Key Technology Research Promotion Program for the Private Sector")



Seminars in the Zone of Industry, Academia, and Government Collaboration



Exemplified Outcomes of Keihanna Info-Communication Open Laboratory

# — Exhibiting the Latest Research Results from NICT

## Zone for ICT for Safety and Security



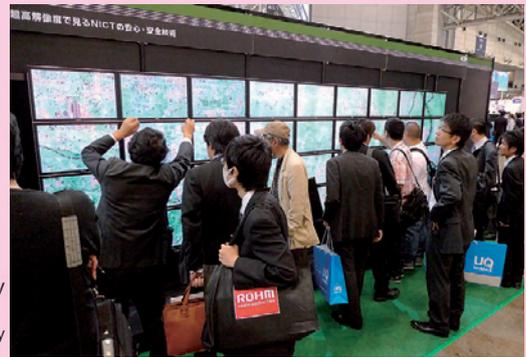
Network Incident Analysis Center for Tactical Emergency Response (nicter), analyzing network incidents accurately and in real time  
 ("nicter, Incident Analyzing Center")



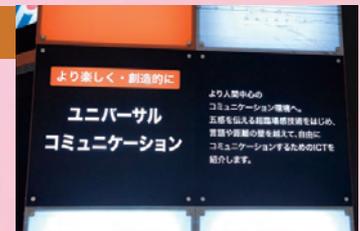
Terahertz camera, innovation in non-destructive inspection  
 ("Terahertz Technology for Realizing Safety and Security through ICT")



Tiled Display visualizing a variety of EM measurement data  
 ("NICT's Safety and Security Technology Seen with Ultra-high Resolution")



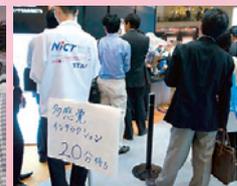
## Zone for Universal Communications



3D images not requiring glasses. Images change according to viewing angle  
 ("Large-Screen 3D Display System Not Requiring Glasses")



A variety of applications can come to mind when you hold a 3D images on your palm  
 ("gCubik+i Capable of Observing 3D Image after Picking Up a Picture from an Illustrated Digital Reference Book")



Virtual reproduction is able to allow important cultural property to be "examined," "touched" and "listened to"  
 ("Multi-Sensory Interaction System")

# ITU TELECOM

## — The Largest International ICT Domain Event

**Date : October 5 (Mon)-9 (Fri), 2009**  
**Venue : PALEXPO (Geneva, Switzerland)**  
**Number of visitors : 20,000**

ITU Telecom World is the largest event in the domains of international telecommunications and ICT in the world and is hosted by the International Telecommunications Union (ITU), an agency of the United Nations. It is held approximately every three years. For ITU Telecom World 2009, agencies and organizations from a variety of levels including industry participated, looking into the future and presenting interesting exhibits from various perspectives with the objective of building the genuine ICT platform and international telecommunications to span the world.

NICT exhibited in one corner of the Japan Pavilion, together with others from NHK and Mitsubishi Electric. In this corner, NICT presented eight panel exhibits, including an overview panel entitled "About NICT," which gave the major R&D themes at NICT towards realizing an "Intellectually Creative Society" and to contribute to development of a ubiquitous-network society. These themes are "ICT for Safety and Security," "Universal Communications" and "New Generation Network." Other panels including "Floating Touch Display" from the Universal Media Research



NICT Exhibition Corner



A View of Floating Touch Display Exhibit



Views of Multi-lingual Speech-to-Speech Translation System Exhibit

# WORLD 2009

## Telecommunications and in the World —

**Seitaro Fujita, Klaus Werner, Research Promotion Department**  
**Nozomu Nishinaga, Koichi Hiragami, Strategic Planning Department**

Center, which is a display using an optical imaging element developed at NICT to manipulate floating images, "Multi-lingual Speech-to-Speech Translation System" from the Knowledge Creating Communication Research Center, which performs multi-lingual speech-to-speech translation by integrating speech recognition, machine translation and speech synthesis technologies, "Broadband Wireless Access on Air in the Near Future" from the New Generation Wireless Communications Research Center, which is a system providing a fiber-optic-class high-speed Internet environment within aircraft, and also two panels: "Toward the New Generation Networks" and "NICT NWGN Vision and Five Network Targets" from the Strategic Promotion Office for New-Generation-Network R&D, Strategic Planning Department.

Demonstrations of "Floating Touch Display" and "Multi-lingual Speech-to-Speech Translation System," were also given, making use of the leading edge technology in each. These were of great interest to visitors, who quickly formed a queue to try them for themselves. Repeated exclamations of "Amazing!," and "Incredible!" were heard, with many visitors commenting that the solid R&D being done at NICT would surely contribute to the future ICT society.

A panel discussion on the "Future Internet" was also held from 11:00 to 12:00 on Thursday, October 8 at the ITC Telecom World Forum, with Hiroshi Miyabe, NICT Vice President, Member of the Board of Directors, participating as a panelist. In the discussion, the need for new networks to replace current networks was confirmed, with comments on the importance of designing to facilitate a smooth transition to the new networks.



A View of Forum Venue

**NICT Attending**

## Industry-Academia-Government Business Fair 2009

NICT will be exhibiting at the Industry, Academia, and Government Business Fair being held at the Tokyo International Convention Center (Tokyo Big Sight) on November 25 to 27 (Wed.-Fri.), 2009.

This fair has been sponsored by the Nikkan Kogyo Shinbun (newspaper) Co. under the title, "Industry, Academia, and Government Technical Exchange Fair" every year since 2004. This year, the name has been changed to "Industry, Academia, and Government Business Fair," reflecting the sponsor's recognition of a transition from the "exchange" stage to the "business" stage, and the demand for initiatives to make the results of this collaboration known, and to begin to sell the accomplishments of these efforts.

In the NICT exhibit booth, we will introduce some of the advanced technology resulting from research in collaboration with industry and academia, including proposed applications of those technologies, and solicit opportunities for technology transfer and facilitation of commercialization. We will also introduce services that NICT provides to society, mechanisms we have for using them even more effectively, as well as systems related to collaboration among industry, academia and government.



NICT Exhibit booth at the Industry, Academia, and Government Technical Exchange Fair 2008

**DATES :** November 25-27, 2009 (Wed.-Fri.), 10:00-17:00  
**LOCATION :** Tokyo Big Sight, East Hall (Ariake, Koutouku, Tokyo)  
**ADMITTANCE :** Free (<http://www.nikkan.co.jp/eve/sangakukan/>)

**Inquiries:** TEL: +81-42-327-7567 (Mr. Komine, Mr. Hatate)  
E-mail: [intcoop@ml.nict.go.jp](mailto:intcoop@ml.nict.go.jp)

**NICT Hosting**

## The 3rd International Universal Communications Symposium IUCS2009

NICT will be holding the 3rd International Universal Communications Symposium (IUCS2009) at the National Museum of Emerging Science and Innovation (Miraikan) on December 3 and 4 (Thu., Fri.). In this symposium, we will present results from research and development in the "Universal Communications" field, including lectures, poster sessions and demonstrations. The objective in this field is to realize human-centered communications environments with technologies such as speech and language processing, human interaction, and ultra-realistic communications technology such as 3D Image. Plenary sessions will include simultaneous Japanese-to-English interpretation, and keynote presentations from Mario Tokoro, the President of Sony Computer Science Laboratories, and two guests invited from overseas. Please refer to the web site for details. We encourage all in related fields to attend.



Registration and a fee are required for participation in this symposium.  
<http://www.i-uc-s.org/2009/>

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### Information for Readers

The next issue will feature an interview on research in the language infrastructure technology field, which underlies Universal Communications.

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