

FY2005 News Headlines

1 **Exhibition at EXPO 2005 Aichi, Japan**

NEDO TOPIC

“See it, touch it, and feel it! Japan’s high tech will amaze you!”

The theme of NEDO’s Pavilion at *The 2005 World Exposition, Aichi, Japan* — held from March 25 to September 25, 2005 — was “See it, touch it, and feel it! Japan’s high tech will amaze you!” Five demonstration projects were exhibited with the goal of illustrating the practical application of next-generation technologies.



NEDO Pavilion at EXPO 2005

NEDO Pavilion Uses Science to Impress and Amaze

Five Demonstration Projects

Environment-friendly new energy demonstration plant

An integrated plant consisting of photovoltaic cells and fuel cells that supplied all the electricity for the Japan Pavilion Nagakute

Next-generation robots

Sixty-five prototype robots capable of interacting with people and expected to be introduced for practical use between 2010 and 2020

Barrier-free IT technology for the disabled

Mobility support system for the disabled and elderly using the communication infrastructure of the EXPO site and small information terminals

Technology to improve cooling efficiency using photocatalysts

Demonstration of construction materials using photocatalysts for cooling

Energy-saving wastewater treatment plant

Wastewater treatment plant using energy-conserving and environmental technologies

At the NEDO Pavilion, visitors could see the results of NEDO projects that succeeded in making new technologies practical. These projects covered the fields of new energy technology, nanotechnology, biotechnology, robot technology, and others. Visitors could also see movie presentations that aimed to dispel the perception of science being difficult and out of reach for ordinary people, instead instilling a sense that science is interesting and exciting.

The first floor and areas outside of the NEDO Pavilion featured the “NEDO New Energy Plant,” where visitors could take a “Future Energy Tour” featuring new technologies, such as fuel cells and photovoltaic power generation, as well as a methane fermentation system running on garbage generated at the EXPO. This gave visitors a chance to observe leading edge new energy technology.



Future Energy Tour Quiz

Efforts to Realize Next-generation Robots That Work with People



Children Meeting PaPeRo, a Childcare Robot and Wakamaru, a Reception Robot and experiencing TAO Aicle, an intelligent wheelchair



Prototype Robot Exhibition Hall Entrance



As one example of Japan’s leading-edge technologies, the NEDO Pavilion gave visitors a chance to observe the results of research being undertaken to promote the practical application of robots. This was also an excellent opportunity to raise the awareness of the public as to how people and robots may interact in the future.

In addition to the robots that performed reception, security and cleaning roles, the Prototype Robot Exhibition held for 11 days between June 9th and 19th presented 65 types of robots expected to be introduced for practical use by 2020. Media interest was intense, with news organizations (approximately 120 TV stations and 520 newspapers and magazines) from both Japan and overseas covering the story. Also, an exit poll of visitors revealed that approximately 80% were “satisfied with the contents of the exhibit.”

Over the 185 days of EXPO 2005, the NEDO Pavilion was visited by around 340,000 people, while around 30,000 took in the “Future Energy Tour,” 2.7 million saw the “Robot Station” and 120,000 visited the “Prototype Robot Exhibit,” giving a combined total of about 3.2 million visitors (about 15% of the 22 million who visited EXPO 2005). While rediscovering Japan’s leadership in advanced technology, visitors could enjoy an amazing exhibition where they could sense the promise the future holds.

NEDO TOPIC 1

Exhibition at EXPO 2005 Aichi, Japan

“See it, touch it, and feel it! Japan’s high tech will amaze you!”

NEDO TOPIC 2

Award-Winning Research Achievements

2 NEDO TOPIC Contributing Greatly to Japan’s Technological Development More Awards Received in Fiscal 2005

Award for Distinguished Industry-Academia-Government Collaboration Received Three Years in a Row

The Award for Distinguished Industry-Academia-Government Collaboration is presented once a year to universities, public research institutes and corporations in recognition of research achievements obtained through cooperative efforts and which have contributed to rapid technological development. This award was first presented three years ago, and has been given to researchers participating in NEDO projects every year since.

Minister of State for Science and Technology Policy Award

Development and Practical Application of a Cryogenic Electron Microscope and Structural Analysis of Membrane Proteins

Awardees

Yoshinori Fujiyoshi, Professor, Faculty of Science, Graduate School of Science, Kyoto University (left)

Mikio Naruse, Director, JEOL Ltd. (right)



(Presented at the Kyoto International Conference Hall, June 26, 2005)

Economy, Trade and Industry Minister’s Award

R&D and Practical Application of Ultrahigh-density Magnetic Recording Technology

Awardees

Yoshihisa Nakamura, Professor, Tohoku University Research Institute of Electrical Communication (left)

Kazuyuki Yamaguchi, Adjunct Professor, Faculty of Engineering, Tohoku Gakuin University (center)

Yoshihiro Shiroishi, Operating Officer, Hitachi Global Storage Technologies, Inc. (right)



FY2005 Japan Institute of Energy Award

(Presented at Hitotsubashi Memorial Hall, National Center of Sciences, February 13, 2006)

Researchers and Corporations Participating in NEDO Project Receive Technology Award

NEDO’s Research and Development of Advanced High-temperature Air Combustion Technology project (undertaken between FY1999 and FY2003), which set out to establish advanced combustion control technologies for high-temperature air combustion, has been awarded the Japan Institute of Energy’s JIE Award (Technical Division).

This high-temperature combustion technology involves injecting heated, low-oxygen air exceeding 800°C to stabilize the combustion, increase the combustion efficiency and reduce the emission of environmental pollutants such as CO₂, NO_x and dioxin. This project exemplifies the synergy of industry-university cooperation. Professor Takashi Niioka, serving as the project leader, oversaw separate teams who worked on different applications of the technology, including waste incinerators, a high-temperature reaction process for producing hydrogen and a pulverized coal boiler. These teams, in turn, worked in cooperation with teams in universities and research organizations that undertook the basic research and analysis needed to develop the fundamental combustion technology. By having these teams address each of the development issues that arose in making the technology practical, the project was able to realize practical applications very quickly. To pursue further practical achievements and provide R&D support systems, NEDO will continue to devote itself to the development of new industrial technologies.

Awardees Takashi Niioka, Professor, Akita Prefectural University (center); JFE Engineering Corporation; Chiyoda Corporation; Nippon Furnace Kogyo Kaisha, Ltd.; and Ishikawajima-Harima Heavy Industries Co., Ltd.



19th Creative Advanced Technology Awards

(Presented at the Tokyo Prince Hotel, July 4, 2005)

Research Group Funded under NEDO’s Grant for Industrial Technology Research Program Wins Special Award

A group of young researchers that received financial support under a NEDO grant for industrial technology research has been awarded a special prize in the industry-academia cooperation division of the 19th Creative Advanced Technology Awards in recognition of the outstanding results that were achieved. Led by Dr. Yoshiteru Hashimoto of the Tsukuba University Graduate School, the group conducted its research based on the theme “Development of an Induced Expression System for Industrial Streptomyces.”

The main body of this research was a project entitled “Basic Studies on Microbial Degradation of Azide and Isonitrile Compounds and Their Application to Bioremediation” that received funding under NEDO’s “Grant for Industrial Technology Research” program in FY2002. NEDO will continue to provide grants for industrial technology research to support young researchers who undertake research and development related to industrial applications. Through this effort, NEDO aims to sow and nurture the seeds that meet the needs of industry and foster the human resources that will be responsible for developing Japan’s industrial technology in the future.

Awardees Tatsuhiko Kobayashi, Yoshiteru Hashimoto, Hiroki Higashibata and Sachio Herai, University of Tsukuba Graduate School