KOKORO NEWS

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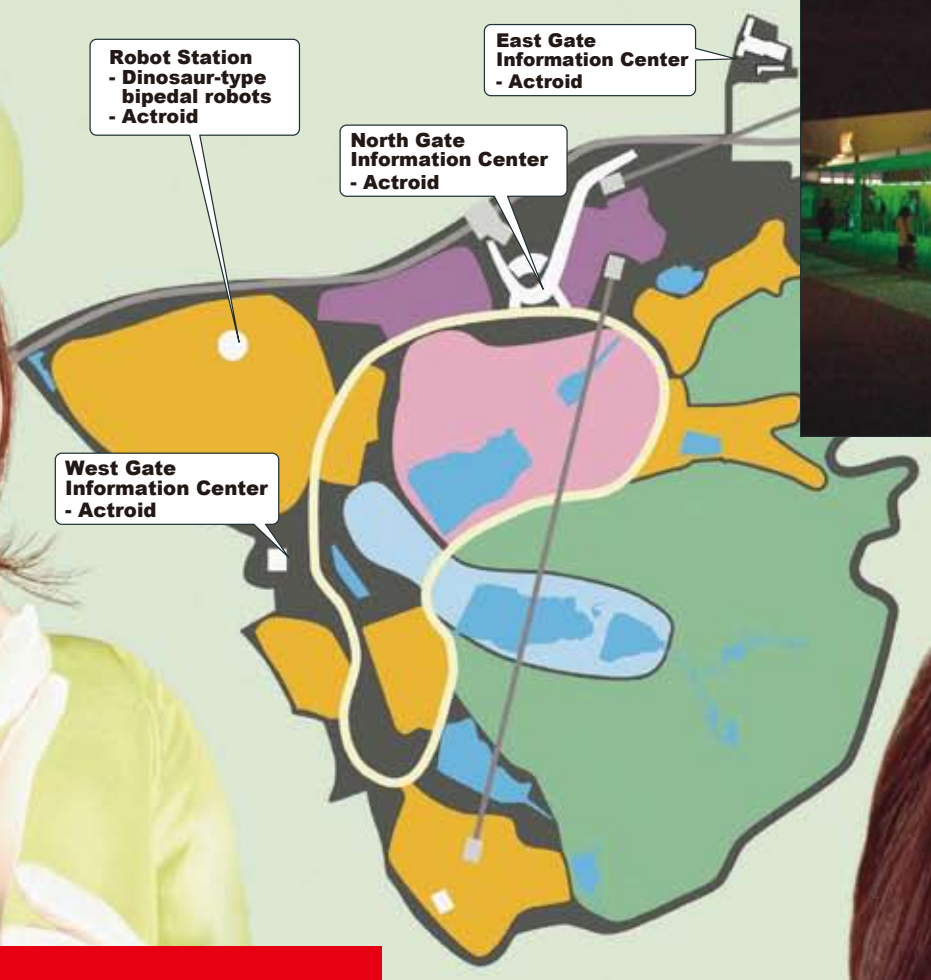
"World Expo 2005 Aichi, Japan"

Kokoro's robots are "highlights of the World Expo"!



Kokoro's robots gained much attention during the World Expo 2005 Aichi, Japan.

The World Expo was held in Aichi Prefecture, Japan between March 25 and September 25, 2005 under the theme of Nature's Wisdom. In the Expo, visitors were able to touch cutting-edge technologies and were able to experience the future.
The "Next-Generation Robot Project" demonstrated in the Expo was the attempt which allowed the visitors to experience the robot technology near themselves.
Kokoro built two dinosaur-type bipedal robots and four Actroids under the project.
Kokoro's robots which became "highlights of the Expo" are featured here.

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The Robot Project

The "Robot Commercialization Project" is the key element of the "Next-Generation Robot Project" promoted by New Energy and Industrial Technology Development Organization (NEDO). The state-of-the-art robots, whose commercialization was aimed at in 2010, were exhibited in several areas of the Expo. These exhibitions also served as demonstration experiments of the robots.

Android receptionist bearing a striking resemblance to a woman with a good command of four languages

Female-type reception robot "Actroid"

Co-developed by Kokoro Co., Ltd. and Advanced Media, Inc.

In the Aichi Expo, four individualistic female-type Actroids were exhibited. They understand naturally spoken words of the visitors and answer to them in a synthetic but true-to-life voice. They can carry on conversations with the visitors in four languages (Japanese, Chinese, Korean and English) showing various facial expressions like smiling. This was achieved by incorporating the voice recognition engine "AmiVoice" developed by Advanced Media into the humanoid robot Actroid developed by Kokoro which has realistic appearance and smooth motions.

It looks a visitor in the eye and reacts with lithe movement. (Information Center at West Gate)

Actroid on Information Center at West Gate


Actroid at North Gate


Actroid at West Gate

Three Actroids were put on Information Centers at North, West and East Gates to serve as receptionists sitting in the Robot Information booths. They were dressed in refreshing green costumes. Since they had already been famous because of their appearance on TV programs, the areas were very crowded during demonstration time with the visitors continuously taking pictures of them. They gained much popularity because they can not only guide the visitors but also answer the private questions from them like "How old are you?" or "What is your favorite food?" There heard compliments from female visitors like "You're so cute!", and the Actroids answered them, "Oh, thank you! I'm glad to hear that."
In the Robot Station, the MC-type Actroid with a good figure dressed in an enamel costume acted as an MC of the stage show. It gained popularity through word of mouth because of its lifelike gestures even when standing beside the stage between shows and its strong presence which made the visitors frightened when it caught the eye of them.


Actroid at East Gate

Realistic procedures create realistic presence.

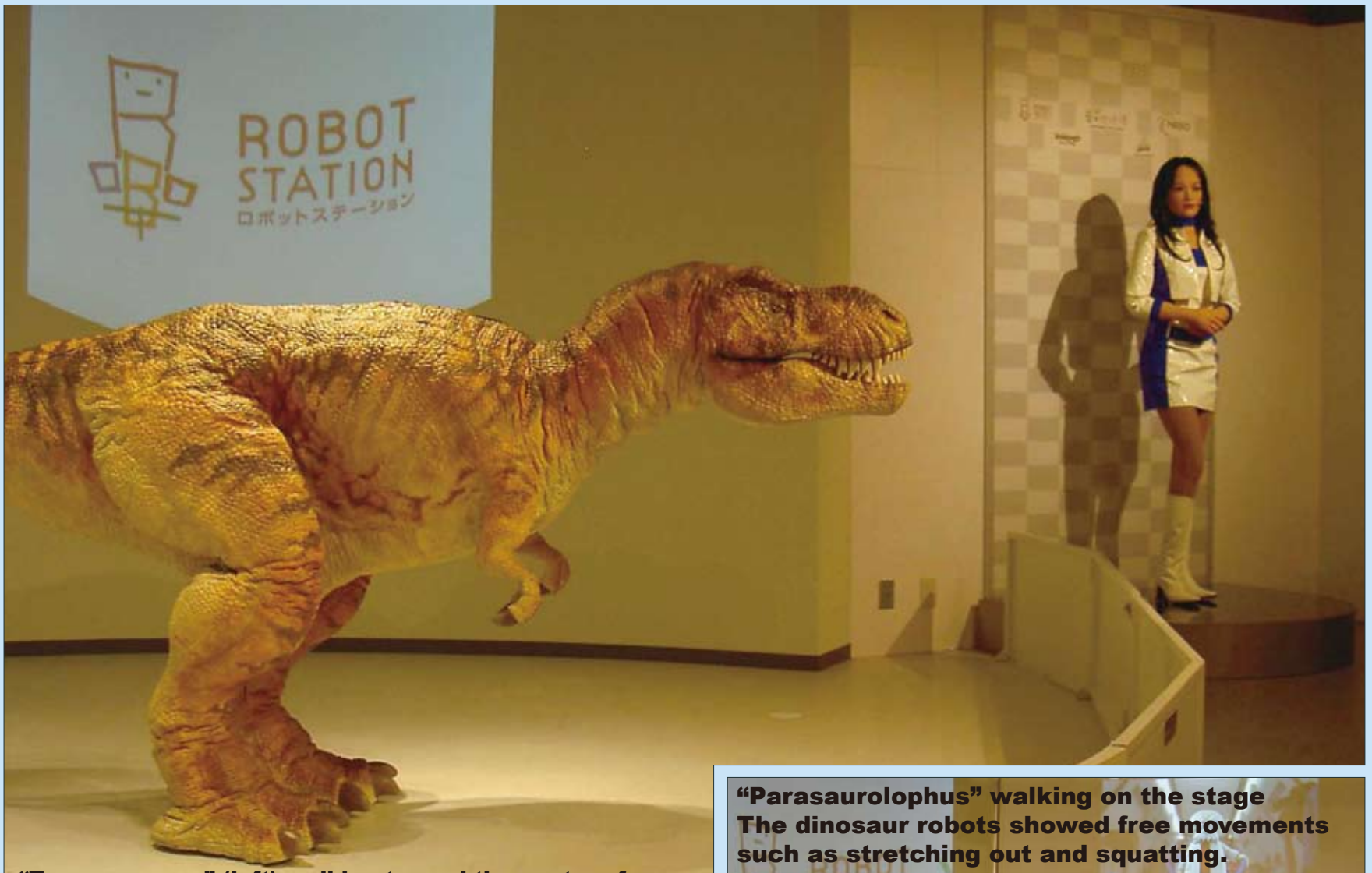
In building the Actroid, we made various efforts to achieve its realistic appearance and natural movements. As for basic facial features, we pursued realism and human-like presence. We studied gestures, facial expressions and talking manners of real receptionists and booth girls and reflected them in the mechanism, movements and the conversation system of the Actroid to represent "humanness" in every casual gesture. Also in the finishing stage, we took elaborate working procedures to create a "beautiful woman" asking specialists to make an original costume and to do hair for it.


MC-type Actroid on the Robot Stage in the Robot Station

As a member of the Robot Project, Kokoro developed and built the Actroids. In addition, external facing technology of Kokoro was utilized in the production of "dinosaur-type robots" which also highly attracted visitors during the Expo. The details of the dinosaur-type robots are introduced here.

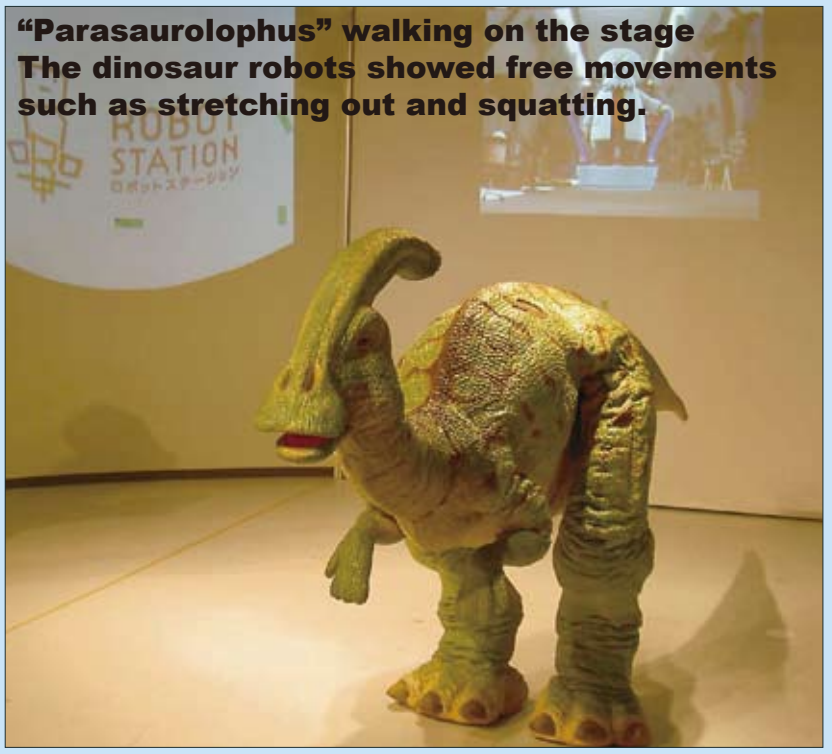
Dinosaur-type bipedal robots

The visitors' eyes remained glued to the dinosaur robots which came toward the center of the stage accompanied by the video image of the ancient world on the back screen.
The dinosaur-type robots, which realized co-existence of realistic appearance and bipedal walking, gained the most popularity in the Robot Station during the Expo.
The meat-eating "Tyrannosaurus" and the plant-eating "Parasaurolophus" robots (Total length: Approx. 3.5m, Weight: Approx. 80kg) alternately appeared on the stage and made surprising and impressive shows.
These dinosaur-type robots co-developed by AIST and NEDO were built utilizing the development results of the humanoid robot "HRP-2" and adopting the latest dinosaur theories. Kokoro was in charge of building realistic dinosaur skin cooperating with Kawada Industries, Inc. which was in charge of hardware production.
Taking the accurate mechanism of them into consideration and paying attention not to prevent walking of them, we succeeded in making them move naturally without damaging the look and feel of muscles. The external facing technology of Kokoro which achieved the realistic appearance of them is the essence of "the dinosaur-making company Kokoro".
Beside the stage, the MC-type Actroid acted as an MC of the show. The visitors enjoyed seeing the two major stars of Kokoro - the dinosaur and the Actroid - playing together.



"Tyrannosaurus" (left) walking toward the center of the stage and the MC-type Actroid (right) playing together

Co-developed by AIST and NEDO



"Parasaurolophus" walking on the stage
The dinosaur robots showed free movements such as stretching out and squatting.