6 Towards Realization of Human-care Communication Technology —Perspective—

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The Keihanna Human Info-Communications Research Center of the Communications Research Laboratory (CRL), located in the Advanced Telecommunications Research Institute International (ATR) Building, began operations in July 2000. Since CRL became an independent administrative institution in April 2001, four research sections in the Intelligent Communications Division at Koganei H.Q. and three sections in the Information Science Division at the Kansai Advanced Research Center have merged to form a total of five research groups. The number of groups has now reached six, with the Nishida Synsophy Project, starting research activities. Intensive cooperative research with ATR, located in the same building, is already underway. In the neighboring Keihanna area are located a number of corporate research centers, including NTT Communication Science Labs, as well as public institutes such as the Nara Institute of Science and Technology (NAIST) and Kansai-kan of the National Diet Library.

This special issue was produced with the cooperation of the ATR Information Sciences Division, serving as the first step in action plans for developing broad cooperative activities with such research institutes.

Keihanna Human Info-Communications Research Center is pushing ahead with the Human-care Communications Project, one of the four dynamic projects of CRL. This project, differentiated from the domain programs routinely conducted by CRL research groups, represents an effort to play a key role as an independent administrative institution in a way different from that of universities and private research organizations, working dynamically on an interdisciplinary basis with internal and external institutes. As it is virtually impossible to meet this goal with the center's resources alone (manpower, equipment, budget, and the like), we will expand our cooperation with ATR and the above external research organizations, as well as with relevant divisions (such as the information and network systems division and the wireless communications division) within CRL.

The Human-care Communications Project is a project that conducts research and development of human-centered communication technologies. In the current sophisticated info-communications era, we see rapid increases in the size and speed of communication networks, as well as the amount of digital content. As a result, there is a growing effort to enable the use of info-communication technology by those who have been left behind. Specifically, the problem of the digital divide is becoming an increasingly serious issue requiring addressing.

If the above problem is not solved, the gaps in quality of life (QOL) between the

"haves" and the "have-nots" will widen, and may eventually result in a disparity between the rich and the poor. In order to solve this problem, we must change our ways of thinking, placing priority not on machinery but on people. In other words, it is essential to develop communication technologies that are easy to use for everyone, including the elderly and handicapped. A human-friendly interface must be provided that allows easy access to necessary information among the huge volumes of information contained in cyber space, which is connected by ultra-high speed networks. Such an interface can also allow us to transform, store, retrieve, and utilize the information as desired. Also essential is research and development on relevant information-processing and communication-system technologies.

This special issue introduces the current status of and future prospects for the 11 projects underway in the Keihanna Human Info-Communications Research Center of CRL and the ATR Information Sciences Division, focusing on four major fields: shared-situational communications technology; education/learning-assistance environment realization technology; media environment creation technology; and communication-assistance environment creation technology.

These research projects are expected to progress further and contribute to the solution of the problem of digital divide in our evolving, sophisticated info-communication society, to the raising of living standards, and to the development of info-communication technologies in Japan.

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Intelligent information system, Evolutionary computation