



Section 5 Promotion of Research and Development

1. Research and development strategy to enhance international competitiveness of Japan

In view of enhancing the international competitiveness of Japan, the Information and Communications Council released the “ICT R&D and Standardization Strategy to Enhance Japan’s International Competitiveness” in June 2008. The R&D activities of the Ministry of Internal Affairs and Communications (MIC) will be promoted based on the “UNS R&D Strategic Program II” (UNS: Universal Communications, New Generation Networks, Security and Safety for the Ubiquitous Network Society), as part of the R&D strategy of the above report.

The “UNS R&D Strategic Program II” consists of three areas: (1) “new-generation network” area, (2) “safe and secure ICT” area, and (3) “universal communications” area and R&D measures in the field of “global environmental conservation (anti-global warming technologies)” that covers all of the three areas. In the future, it will be increasingly necessary to implement R&D activities effectively and efficiently based on the “UNS R&D Strategic Program II”, through the further enhancement of cooperation among industry, academia and government, lead by the National Institute of Information and Communications Technology (NICT).

(1) “New-generation network” area

Future networks are the foundation of the ICT industry and are expected to meet emerging needs flexibly and accurately. In order to support such future networks, the Ministry of Internal Affairs and Communications (MIC) has been promoting research and development of the “new-generation network technology.” Specifically, the following have been undertaken: (1) R&D concerning new-generation network infrastructure technology, (2) R&D concerning next-generation photonic network technology, (2) R&D concerning next-generation backbone, and (4) R&D concerning next-generation network infrastructure technology.

(2) “Safe and secure ICT” area

As “ICT Safe and secure Technology” aimed at establishing a safe and reliable society, the Ministry of Internal Affairs and Communications (MIC) promotes research and development activities to overcome

issues in various fields including disaster prevention, natural environment, and welfare as well as research and development activities to provide a dependable ICT infrastructure so that anyone can use ICT effectively. Specifically, the R&D activities include research/development of: (1) space communication technology, (2) remote sensing technology, (3) next-generation advanced network infrastructure, (4) ubiquitous platform technology, (5) information security technology, high-speed, large capacity satellite communication technology, and (6) integration between robots and ubiquitous networks.

(3) “Universal communications” area

With regard to the field of “Universal Communications” for boosting intellectual energies, the Ministry of Internal Affairs and Communications (MIC) promotes research and development activities to realize communications technologies that promote intellectual creativity and communications technologies friendly to people, including the elderly and the disabled who can then overcome age, physical, language and cultural barriers through the use of the most advanced ubiquitous networks in the world. Specifically, the research and development activities include (1) automatic speech translation technologies and (2) the Super High Reality Video and Sound System.

(4) Global environment conservation (anti-global warming technology)

R&D in ICT, which has thus far been conducted with the aim of improving services and business operations and reducing costs, has a positive effect on the reduction of CO₂ emissions. Now that global warming issues are getting more serious by the day, it is necessary to promote R&D that will contribute proactively to the reduction of CO₂ emissions. The Ministry of Internal Affairs and Communications (MIC) is resolved to promote R&D activities for such technologies as the management of consumption and supply of power through informatization of energy flows, technology to realize a paperless society, fully-optical networks, energy-saving ICT devices and measurement of CO₂ emissions.

2. Development of a research and development environment

In order to promote effective and efficient research

and development activities in a concerted manner by developing the research and development environment, it is essential to create an open, flexible and competitive research/development environment.

Hence, the Ministry of Internal Affairs and Communications (MIC) is now developing an advanced test-bed network for research and development (JGN2), utilizing competitive research funds.