

Q10 What research and development efforts are you pursuing to resolve global environmental issues?



A1 Our research and development work targeting the significant reduction of environmental loads includes HIKARI Commerce Services, a new platform for remote-control medical treatment, and telecommuting.

NTT (holding company) is pursuing state-of-the-art technologies and conducting experiments in the field of information communication under its "Vision for a New Optical Generation," anticipating a future in which broadband is widespread and offers potential services that could lead to the reduction of global environmental loads.

●●●Electronic catalog system for the era of optical fiber

NTT Service Integration Laboratories has been pursuing research and development into HIKARI Commerce Services beyond current Web-based, e-commerce businesses. One of the keys to these efforts is a system that enhances the ease of selecting goods by arranging product images on a network in a 3D space and rearranging the product information in a variety of ways according to user needs. For example, a travel agency using this system could reduce CO₂ emissions by 267 tons compared to the printing and distribution of 20 travel brochures, 200,000 copies each, over three months.

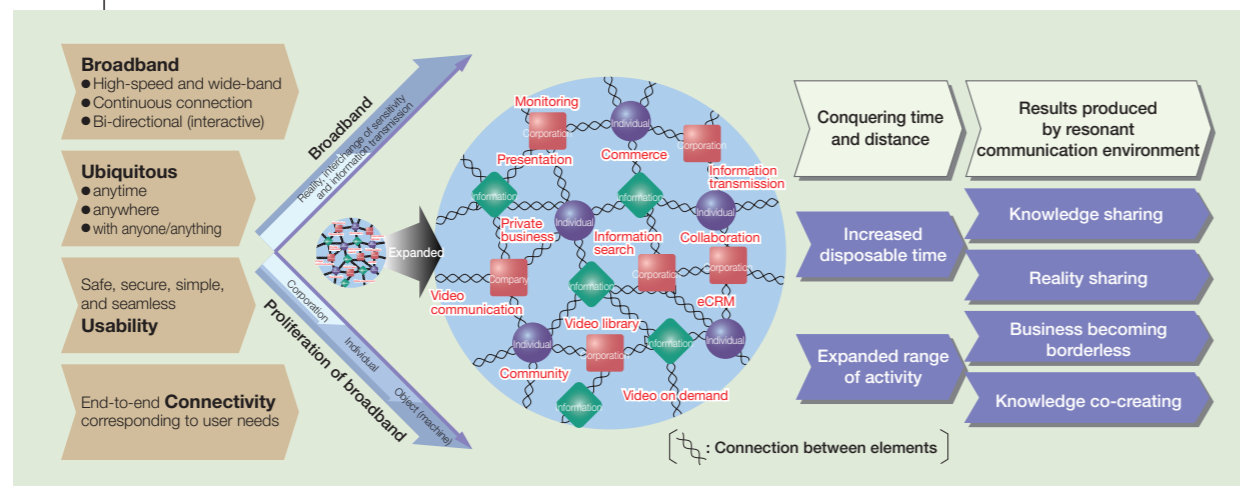
●●●An innovative platform supporting remote-control medical treatment and telecommuting

NTT Cyber Space Laboratories has been promoting the research and development of community and collaboration services utilizing fiber optic networks, servers and PCs as a platform to support telecommuting and remote control medical treatment involving multiple locations. Annual CO₂ emission could be reduced by 5.69 million tons if 2.25 million workers utilized this system to telecommute from their homes.

●●●e-bidding system

NTT Information Sharing Platform Laboratories has developed a system that facilitates authentication for secure administrative services and e-commerce. Based on this work, NTT Service Integration Laboratories has developed an e-bidding system that is applicable to such varied fields as bidding and procurement for government agencies.

Switching to this e-bidding system from existing conventional bidding processes, which consume large volumes of paper documents as well as the significant costs associating with the flow of people, could reduce annual CO₂ emissions by 2,302 tons, estimated on the basis of 18,000 projects put up for bid with 20 companies competing for each project.



● The fundamental concept of our "Vision for a New Optical Generation" is resonant communication

A2 We are pursuing research and development into an Environment IT Service that supports co-existence with the natural environment and creates a safe and comfortable community.

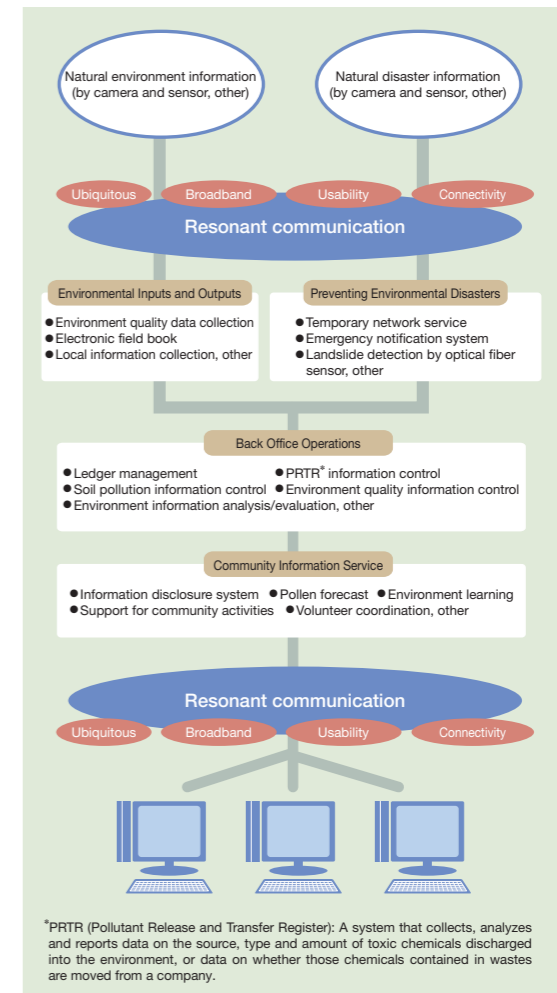
●●●Environment IT Service

Environment IT Service is a system that facilitates community consensus-building by providing citizen access to environment information related to their local community and encourages proactive citizen participation in the planning of their own environmental actions.

NTT Energy and Environment Systems Laboratories has been developing technologies to provide this system based on knowledge obtained through an experiment in local governments and field work. The system includes such information as the collection and disclosure of water quality in rivers, airborne particles, and the blooming of cherry trees. It also provides opportunities to learn about the environment and develops environment disaster prevention services to avert potential damage from chemicals.

●●●A sensing technology which is a key to realizing the Environment IT Service

NTT Microsystem Integration Laboratories and NTT Energy and Environment Systems Laboratories have been developing and providing systems that enhance the protection of public health and encourage public interest in environmental issues by applying a technology that provides hard data on the state of environmental pollution. In fiscal 2002, we developed a micro-sensing device using micro-machine technology to detect within a few seconds the Volatile Organic Compounds (VOCs) generated by automobiles and environmental hormones. In addition, NTT Energy and Environment Systems Laboratories has developed a system using a fixed point observation sensor to monitor the environmental impact of dairies. These new technologies are also a key technology to realizing the Environment IT Service.



● Environment IT Service

*PRTR (Pollutant Release and Transfer Register): A system that collects, analyzes and reports data on the source, type and amount of toxic chemicals discharged into the environment, or data on whether those chemicals contained in wastes are moved from a company.



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A3 We are developing clean energy technologies to reduce CO₂ emissions that could cause global warming.

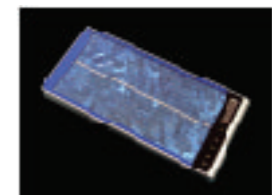
●●●Highly efficient fuel cell technology

CO₂ emissions can be further restrained if we apply clean energy to provide most of the increase in power consumption due to the advance of the information communication society.

The NTT Energy and Environment Systems Laboratories focuses on fuel cells, that is, power systems which generate electricity directly from hydrogen and oxygen. It also studies the application of solid oxide fuel cells (SOFC), which hold particular promise for generating the high levels of power required for communications equipment.

●●●General-purpose solar battery charger

The NTT Energy and Environment Systems Laboratories has been developing a general-purpose charger using solar batteries that can be widely used for portable electronic devices. We are currently improving the technology toward commercialization in fiscal 2003.



● General-purpose solar battery charger



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