

History / Achievement

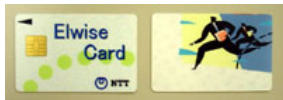
1998-2001

1998

- Announcement of our vision "Toward an Information Sharing Industry for the 21st Century"
- [Establishment of Science and Core Technology Laboratory Group (consisting of six Laboratories)]
- Successful growth of a single-crystal silicon having a new crystal structure
- Start of Joint Project of IWATE-UNU-NTT Environmental Network
- Development of a new material for air poles for cryogenically-operated solid electrolytic type fuel cells
- Development of a news-flash-type Japanese-to-English machine translation system, ALTFLASH
- Development of a time-series active search method for instantaneous search of sounds and images
- Development of a low-power 2.5 -Gbit/s optical transmitter module of optical connector size



- Development of a method of controlling semiconductor laser polarization characteristics using electron spin operation
- Successful laser oscillation using electrochemical light emission
- Development of a 16 x 16 thermal-optical matrix switch
- Successful manufacture of silicon polymers whose helical direction reverses depending on temperature
- Development of a word/chinese character affinity database
- Development of a contact-type, highly secure, multi-purpose IC card



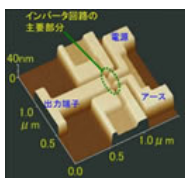
- Start of joint research on leading-edge technology with MIT in the U.S
- Successful 3-Tbit/s optical transmission tests
- Clarification of the mechanism of "viewing moving objects"
- Successful development of one-chip fingerprint authentication unit

1999

- [Reorganization of NTT into NTT Group under a holding company]
- Construction of Digital City Kyoto
- Development of a computer (DUG-1) capable of using discretion in responding to spoken words
- Start of a verification test of a next-generation network
- Development of a vision of unifying single-core optical connectors by using the low-cost MU type connector
- Acquisition by Atsugi R&D Center of ISO14001 certification



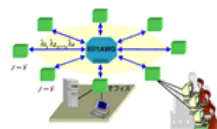
- Development of a voltage fluctuation monitor for stable power supply to networks
- Development of lightning protection adapters for use in areas hit by heavy thunderstorms
- Development of optical switches that operate on a new principle of thermal capillary effects
- Demonstration of feasibility of ultra-low noise optical amplification that overcomes the quantum limit
- Development of an inverter circuit using a single-electron transistor



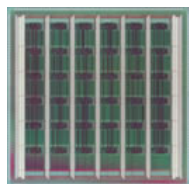
- Development of a power supply for an optical network unit (np-ONU) hub
- Successful integration of a high performance semiconductor optical filter and an optical detector on a single chip
- Development of a pollen forecasting system

2000

- Development of a large-capacity, full-mesh network system using an orbiting arrayed waveguide grating filter



- Development of a new material that allows highly efficient electro-magnetic field emission
- Successful transmission of ultra-high-definition video on a broadband network
- Development of a technology for instantaneous search of sounds and videos on the Internet
- Development of Super high definition image display technology for thin displays
- Development of LSI PCA-1, which can autonomously change its own circuit functions



- Successful 1.28-Tbit/s, time-division multiplex transmission experiment at a single wavelength using femtosecond optical pulses
- Development of an spoken dialog system, "Hiyumu"
- Development of a large-capacity 1,000-channel AWG
- Development of the world's smallest, high-precision positioning device(integrated micro-encoder)
- Start of a verification trial of a pollen forecasting service in the metropolitan area
- Development of a high-sensitivity, night-vision monitoring system with image recognition capability

2001

- Development of "SIONet": New Peer-to-Peer Technology not requiring a Server
- Development of Photonic MPLS Router Supporting Future Super-Large-Capacity Internet Backbone



- Development of Broadband Optical Amplifier (Tellurite Raman Optical Fiber Amplifier), Indispensable for Large-Capacity DWDM Transmission Systems
- Implementation of Surface Emitting Laser for Optical Communications Operating at one-hundredth of the Current Required by Conventional Devices
- Launch of World's First Evaluation Trial of 2000-line-class Digital Cinema



- Field Test for 'TSUNAGARI' Communication (service) --Fostering a sense of propinquity to people living apart
- Development of Automatic Internet Diagnosis System for Diagnosing Route Failures between Multiple ISPs: "ENCORE"
- Clarification of Visual Sense System Mechanism for Increasing Image Contrast
- Development of a Method for Measuring Listening Comprehension Ability Which Is Adapted to Daily Life, - a Task Which Has Been Difficult up to Now
- Success on Direct Observations of the electron distribution in quantum dots
- Development of STP Process Technology for Fabrication of New Functional Devices