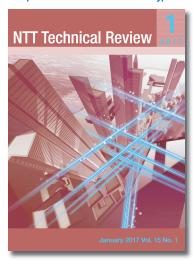
# NTT Technical Review

https://www.ntt-review.jp/archive/2017/201701.html



# View from the Top

Hiromichi Shinohara, Senior Executive Vice President and Head of R&D Strategy Department, NTT

## **Feature Articles**

**Photonics-electronics Convergence Devices that Support Al-IoT Service** Era

- On Si Platform Opens a New World in Al-IoT Service Era
- Recent Progress in Optical Waveguide Technologies Enabling Integration of High-density Compact Photonics
- Compact Optical Devices with Low Power Consumption
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Directional Remapping in Tactile Motion Perception

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Standardization of Next-generation Wireless LAN IEEE 802.11ax

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Achieving Tbit/s-level Transport Functions with White-box Switching on Virtual Networks—Driving NetroSphere with Network Architecture (MSF) that Maximizes General-purpose Equipment

### View from the Top

# Hiromichi Shinohara, Senior Executive Vice President and Head of R&D Strategy Department, NTT

#### **▼**Overview

The combined concept of self-transformation and profit growth is gaining momentum in the NTT Group, Based on the B2B2X (business-to-business-to-X) model, the Group is pursuing collaboration with a wide variety of players while taking up important themes such as overcoming social problems and strengthening industrial competitiveness. We asked Hiromichi Shinohara, NTT Senior Executive Vice President, to tell us about the aspirations of the NTT Group for this year and the outlook toward 2020, which is only three years away.



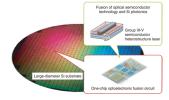
#### **Feature Articles**

Photonics-electronics Convergence Devices that Support Al-IoT Service Era

## On Si Platform Opens a New World in Al-loT Service Era

#### **▼**Abstract

In the near future, ICT (information and communication technology) services are expected to achieve a dramatic evolution through the use of the cloud, IoT (Internet of Things), and AI (artificial intelligence). The communication devices necessary to realize this new era require high performance, high functionality, low cost, and low power consumption. A fusion of various technologies and know-how will be applied in order to meet these requirements. In this article, we explain the concept of an on Si platform, which expands upon silicon (Si) photonics, as one solution. We also show the direction of research and development (R&D) of various elemental technologies and describe the R&D fabrication process to realize the on Si platform concept.



## **Regular Articles**

## **Directional Remapping in Tactile Motion Perception**

#### **▼**Abstract

This article introduces tactile illusions in which adaptation to one directional motion alters the direction of the following motion. We used this illusion to explore how the brain calculates tactile motion directions, which is an essential issue in creating tactile navigation systems.

