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### **Rising Researchers**

Hiroshi Yamazaki, Distinguished Researcher, NTT Device Technology Laboratories

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#### View from the Top

# Akira Shimada, President and Chief Executive Officer, NTT

#### ▼ Abstract

With people at its core, the NTT Group defines the capabilities it aims to achieve as service expertise, technical expertise, and intelligence. All 330,000 NTT Group employees—working in approximately 90 countries and regions—are accelerating the group's self-transformation into a new NTT that is open, global, and innovative to be valuable to all stakeholders, including customers, shareholders, local communities, and employees. We asked Akira Shimada, president and chief executive officer of NTT, who took up the post in June 2022, about the details of the guidelines that he announced at his inaugural press conference and his thoughts on what it means to be a top executive.



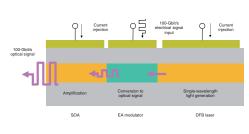
#### **Feature Articles**

**Device Technologies for Enabling the All-Photonics Network** 

# High-output Optical Transmitter and High-sensitivity Optical Receiver for 400-Gbit/s 40-km Fiber-amplifier-less Transmission

#### ▼ Abstract

We developed a high-output optical transmitter and a high-sensitivity optical receiver for long-distance transmission in the All-Photonics Network that is being promoted under IOWN (the Innovative Optical and Wireless Network). This article introduces the 400-Gbit/s optical transmitter with a semiconductor optical amplifier-assisted extended-reach electro-absorption modulator integrated distributed feedback laser called AXEL, a key device for higher optical output, and the 400-Gbit/s optical receiver with an avalanche photodiode, a key device for higher sensitivity.



#### **Feature Articles**

**Optical Device Technologies for Next-generation Computing Using Light** 

# Optical Device Technology for Next-generation Computing Using Light

#### ▼Abstract -

The performance of conventional computers, which have supported the infrastructure of our digital society and developed in accordance with Moore's law, seems to be approaching its limits. To solve many social issues and achieve a safe, secure, and prosperous society, next-generation computers with performance far beyond that of conventional computers, such as quantum computers, are expected. This article outlines the possibilities of next-generation computers that *compute using light* and optical device technologies introduced in the Feature Articles of this issue.

