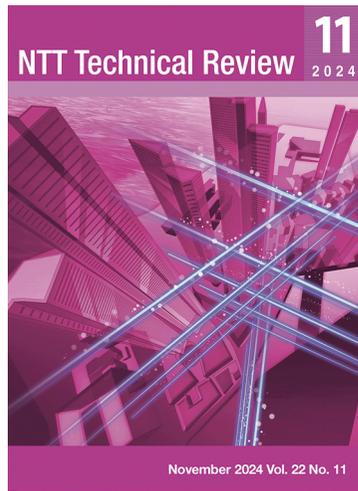


<https://www.ntt-review.jp/archive/2024/202411.html>



## View from the Top

- Takaaki Sato, Senior Executive Vice President, Head of R&D Innovation Division, NTT DOCOMO

## Front-line Researchers

- Shiro Saito, Senior Distinguished Researcher, NTT Basic Research Laboratories

## Rising Researchers

- Naomi Yamashita, Distinguished Researcher, NTT Communication Science Laboratories

## Feature Articles

### Exploring the Nature of Humans and Information for Co-creating Human-centered Technologies with AI

- New Developments in Communication Science Research in the Generative AI Era—Exploring the Nature of Humans and Information for Co-creating Human-centered Technologies with AI
- Towards Reliable Infrastructures with Compressed Computation
- Human-centric Image Rendering for Natural and Comfortable Viewing—Image Optimization Based on Human Visual Information Processing Models
- Fast Knowledge Discovery from Big Data—Large-scale Data Analysis with Accuracy Guarantee via Efficient Pruning Methods
- The Crux of Human Movement Variability

## Feature Articles

### Reducing Security Risks in Supply Chains by Improving and Utilizing Security Transparency

- Addressing Supply Chain Security Risks through Security Transparency
- Activities of the Security Transparency Consortium to Enhance the Effective Use of Visualization Data
- Enhancing Software Vulnerability Management with Visualization Data
- Efforts to Improve and Utilize Security Transparency in Software Supply Chains

## Global Standardization Activities

- Standardization Trends on QoE Evaluation in ITU-T Study Group 12

## View from the Top

### Takaaki Sato, Senior Executive Vice President, Head of R&D Innovation Division, NTT DOCOMO

#### ▼ Abstract

As a leader in the global mobile communications scene, NTT DOCOMO is pursuing coexistence of artificial intelligence and humans, construction of sustainable networks, and development of innovative technologies. We spoke to Takaaki Sato, senior executive vice president of NTT DOCOMO, about the company's technology strategy for creating a new world of communication culture and outlook for technological development focused on 6G (the sixth-generation mobile communications system).



## Feature Articles

### Exploring the Nature of Humans and Information for Co-creating Human-centered Technologies with AI

### New Developments in Communication Science Research in the Generative AI Era—Exploring the Nature of Humans and Information for Co-creating Human-centered Technologies with AI

#### ▼ Abstract

NTT Communication Science Laboratories (CS Labs) is dedicated to the advancement of “heart-to-heart communication” between humans and computer systems. Our research focuses on the development of fundamental theories that explore the nature of information and humans, as well as the creation of innovative technologies that will revolutionize society. This article highlights some of CS Labs' efforts toward the coexistence of humans and artificial intelligence (AI), taking into account the recent and rapidly advancing trend of generative AI.

## Feature Articles

### Reducing Security Risks in Supply Chains by Improving and Utilizing Security Transparency

### Addressing Supply Chain Security Risks through Security Transparency

#### ▼ Abstract

NTT has launched the Security Transparency Consortium to promote research and development of technologies for reducing supply chain security risks based on the key concept of *security transparency* and work with various companies forming the supply chain to mitigate such risks. In this article, we will introduce international trends related to supply chain security risks, relevant technologies, and an overview of the consortium.

**Risk (2)**  
The risk of target organizations being compromised through the supply chain due to the vulnerable environments of businesses with inadequate countermeasures.



**Risk (1)**  
The risk of target organizations using compromised entities (such as services, systems, or products) within the supply chain.