

IOWN Global Forum overview

Creating Next-Generation Communications and
Computing Infrastructure Technology



IOWN
GLOBAL FORUM™

IOWN Global Forum

Global Collaboration is crucial for developing cutting-edge IOWN technologies and global eco-system

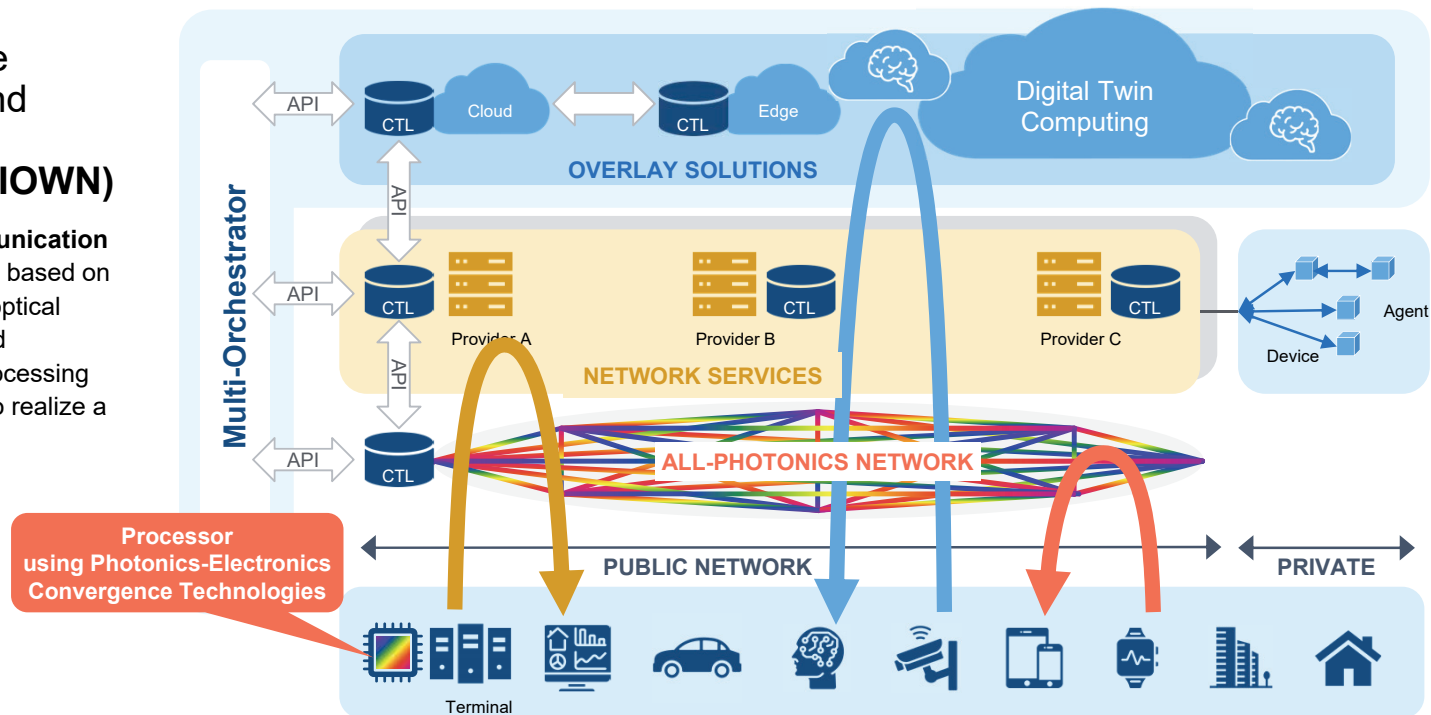


- ✓ In January 2020, NTT, Intel and Sony established Innovative **O**ptical and **W**ireless **N**etwork (**IOWN**) Global Forum for the future communication
- ✓ Global non-profit organization for developing the next generation communication and computing infrastructure with new technologies, frameworks, specifications and reference architectures

What's IOWN?

Innovative Optical and Wireless Network (IOWN)

Future communication infrastructure based on leading-edge optical technology and information processing technologies to realize a smarter world.



IOWN Global Forum Vision 2030 Objectives

In order to solve various social issues and realize a smarter world, by 2030, IOWN Global Forum will achieve:



Lower power consumption by

100x



Higher transmission capacity by

125x



Lower end-to-end latency by

200x

IOWN Global Forum Members

Sponsor Members

Accenture Japan	Furukawa Electric	NICT	SK Hynix
Chunghwa Telecom	HAKUHODO	Nokia	SK Telecom
Ciena	Intel	NTT	Sony Group
Cisco Systems	KIOXIA	Oracle Japan	Sumitomo Electric Industries
Dell Technologies	Microsoft	ORANGE	Toyota Motor
Deloitte Tohmatsu	Mitsubishi Electric	PwC Japan	VMware
Delta Electronics	Mizuho Bank	Rakuten Mobile	
Ericsson	MUFG Bank	Red Hat	
Fujitsu	NEC	Samsung Electronics	

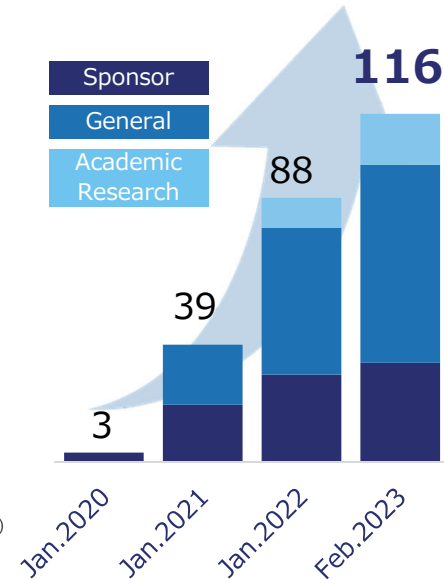
General Members

Accton Technology	Hitachi	Mitsui Knowledge Industry	SCSK
AISIN	HONDA TSUSHIN KOGYO	Murata Manufacturing	SENKO Advanced Components
ADVANTEST	I-PEX	NetApp	Shin-Etsu Chemical
AGC	IBIDEN	Net One Systems	SHINKO ELECTRIC INDUSTRIES
AIOCORE	Infinera	NISSHO ELECTRONICS	SKY Perfect JSAT
AJINOMOTO	IP Infusion	Nissan Chemical	SUMITOMO BAKELITE
ANRITSU	ITOCHU Techno-Solutions	Nitto Boseki	Sumitomo Corporation Kyushu
Avago Technologies	JGC Japan	NVIDIA	Synopsys
CommScope	Juniper Networks	OKI Electric Industry	TELEFÓNICA
Dai Nippon Printing	JX Nippon Mining & Metals	Olympus	Toppan
Dentsu Group	Keysight Technologies	Peers	Toshiba
DIC	MIRAIT	Preferred Networks	Toyo Ink SC Holdings
EXEO Group	MIRISE Technologies	ProteanTecs	UNIADEX
Fujikura	Mitsubishi Corporation	Qualcomm	Wistron
HAKUSAN	Mitsubishi Chemical	Renesas Electronics	Yazaki
HAZAMA ANDO	Mitsubishi Heavy Industries	RICOH	
Hewlett-Packard Japan	Mitsubishi Materials	Santec	

Academic or Research Members

The National Institute of Advanced Industrial Science and Technology (AIST)
 Central Research Institute of Electric Power Industry (CRIEPI)
 Cloud Computing & IoT Association in Taiwan (CIAT)
 Hiroshima University
 Institute for Information Industry (I3)
 Industrial Technology Research Institute (ITRI)
 Japan Aerospace Exploration Agency (JAXA)
 Keio University
 National Institute of Informatics (NII)

National Research Institute for Earth Science and Disaster Resilience (NIED)
 Osaka University
 Photonics Electronics Technology Research Association (PETRA)
 Photonics Industry & Technology Development Association (PIDA)
 SBI Graduate School
 Taiwan Association of Information and Communication Standards (TAICS)
 Tohoku University
 The University of Tokyo



As of February 2, 2023

Forum Activities

IOWN Global Forum will work on both technology components and use cases for enabling a smarter world



Use cases and applications

(IOWN Global Forum vision, motivating use cases, potential business impact estimations, technology requirements)



Smart Energy



Smart Cities



Smart Mobility



Smart Finance



Smart Entertainment

More Use Cases and Applications

Technical solutions

(reference architectures, protocols, interfaces, specifications)



Networking
Optical & Wireless



Distributed
Computing



Photonics &
Optoelectronics



Devices,
Interfaces
& Terminals

More Technologies

Prospective Use Cases leveraging IOWN

Cyber Physical Systems

Beyond Human Cognition, Prediction, Automation



Area Management

City wide surveillance
City wide autonomy



Mobility Management

Energy Aware Navigation



Industry Management

Remote Manufacturing
Inspection Automation



Health Management

Disaster outbreak prevention



Smart Grid Management

Renewable energy
Supply-demand control

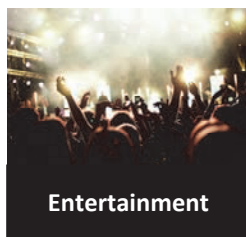


NW Infrastructure Management

Maintenance automation
"Fiber-Sensing"

AI Integrated Communications

Human-Centric Application enhancing remote Communication & Operation



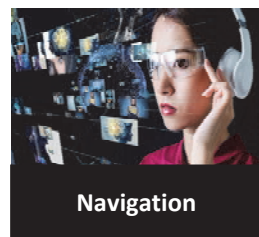
Entertainment

Immersive Live Music
Immersive Live Sport
Cloud Gaming



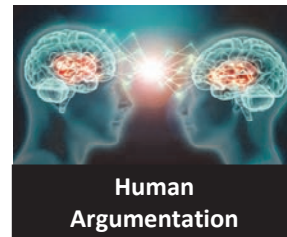
Remote Learning

Professional Training



Navigation

Immersive XR



Human Argumentation

Enhancing smooth communication



View Our Public Resources

Introduction to a Smarter World Fact Sheet

<https://iowngf.org/fact-sheets/>



Vision 2030: A Smarter, Better World for All Fact Sheet

<https://iowngf.org/fact-sheets/>



Innovative Optical and Wireless Network Global Forum Vision 2030 and Technical Directions White Paper

<https://iowngf.org/white-papers/>



IOWN Global Forum Videos

<https://iowngf.org/videos/>



AI-Integrated Communications Use Case and Cyber-Physical System Use Case Release-1

<https://iowngf.org/use-cases/>



IOWN Global Forum System and Technology Outlook Reference Document

<https://iowngf.org/technology/>



A Six Reference Document "Starter Pack" for Creating an Intelligent, Energy-Efficient All-Photonics Data and Communications Architecture Technology Release-1 Documents

<https://iowngf.org/technology/>



Proof of Concept (PoC) References Reference Documents

<https://iowngf.org/technology/>



**Please join us in creating the solutions that will
power a smarter, more connected world!**

For more information and to contact us, please visit our website.

<https://iowngf.org/>

