



Nessum Alliance

Michimasa (Mitch) Aramaki

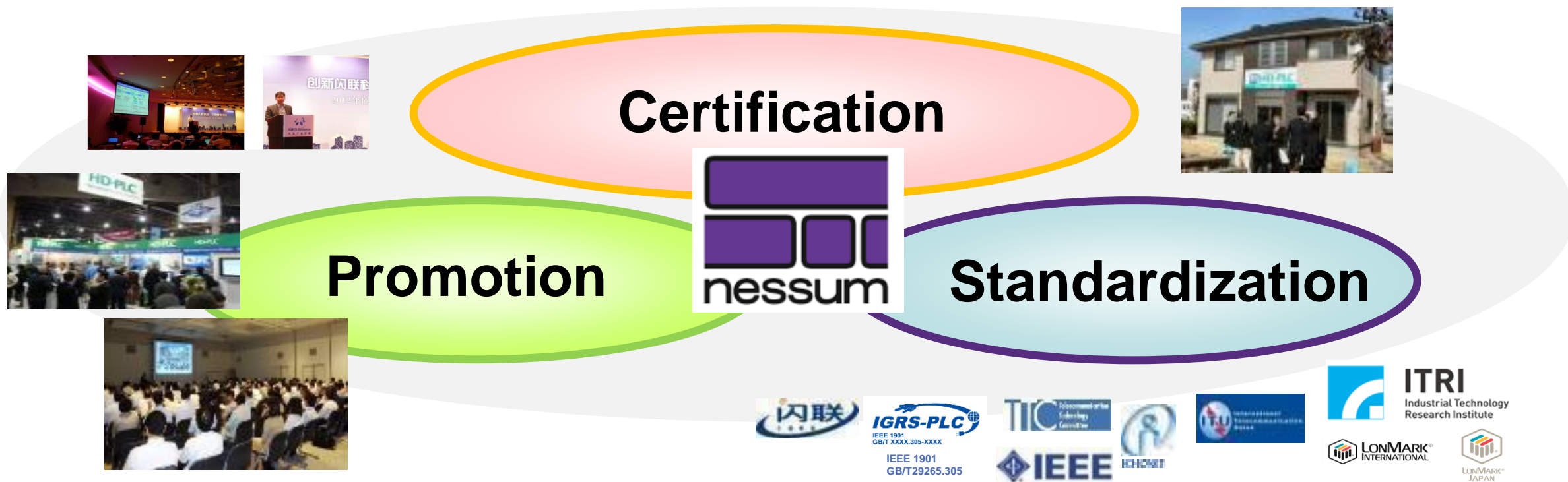
President and Chairman of the Board

Nessum

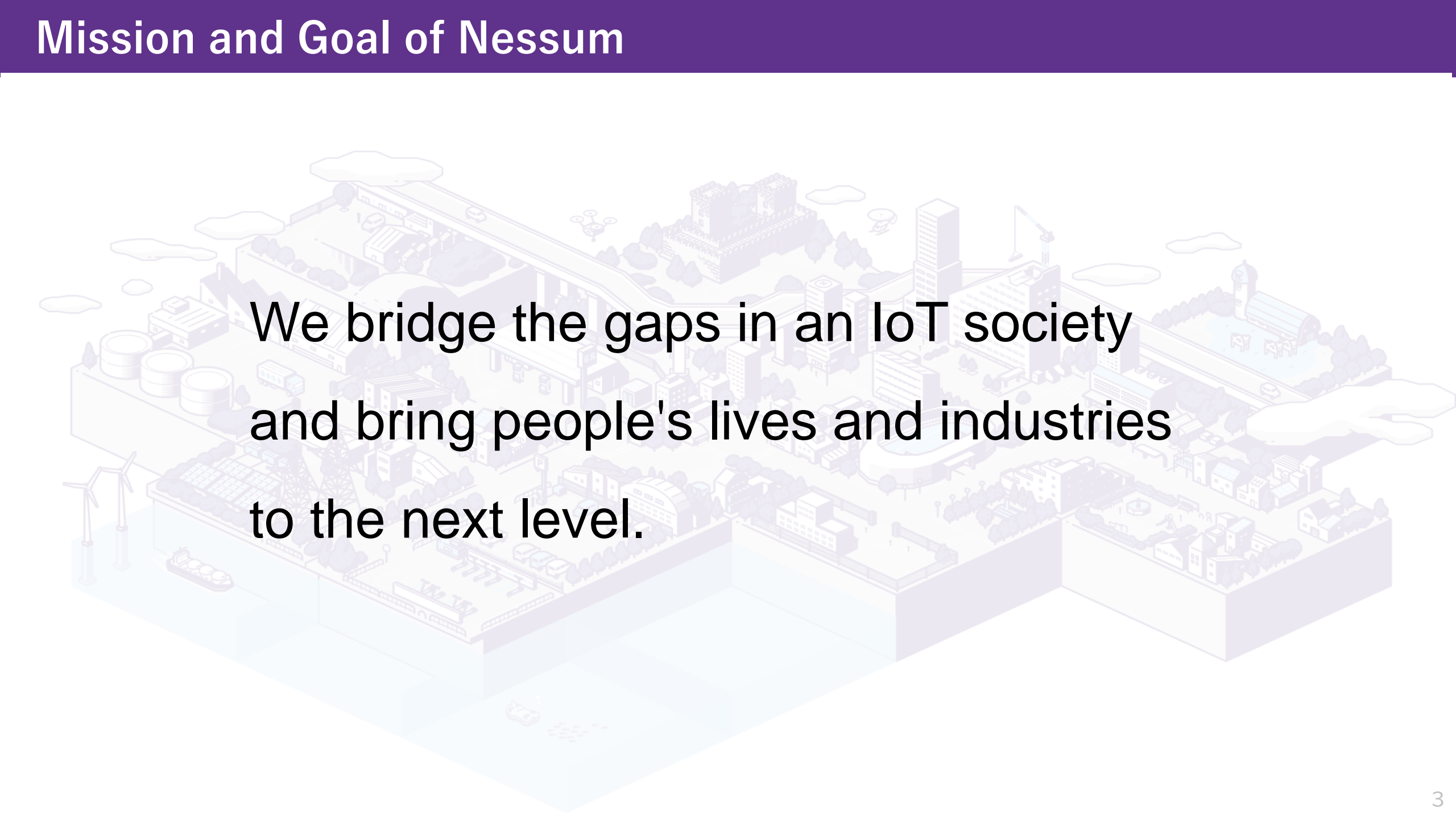
EU Day 2024

Overview

Name	Nessum Alliance (former name HD-PLC Alliance)
Founder and Establish	Founded by Panasonic in 2007
Number of members	32(27 companies, 5 organizations)
Placement	Fukuoka, Japan
WEB site	https://nessum.org



Mission and Goal of Nessum

An isometric illustration of a smart city. The scene is composed of various 3D blocks representing buildings, streets, and infrastructure. In the foreground, there are data storage cylinders and a wind turbine. In the middle ground, there are more buildings, a bridge, and a drone. In the background, there are more buildings and a satellite. The entire scene is rendered in a light purple and blue color palette. The text is overlaid on the center of the image.

We bridge the gaps in an IoT society
and bring people's lives and industries
to the next level.

Members Roster

Promoter

Panasonic

Shikino
Shikino High-tech CO., LTD.

Toho Technology Corp.

Standard

FE Fuji Electric

GE GE VERNOVA

Helvetia Inc.
株式会社ヘルヴェチア

kawamura

KOITO ELECTRIC INDUSTRIES, LTD.

MegaChips

MinebeaMitsumi
Passion to Create Value through Difference

MIRAIT ONE

Nuri Flex
Japan

PPC
Power Plus Communications

Progilon

SED

xingtera

socionext
for better quality of experience

Ubiquitous AI Corporation

UL Solutions

Start-up

adatec

CORE SIGHT.LI
Electronic.Firmware.Software.FPGA.

ECOLINQX

Supporter

SASKEN

Special Member

ASIBA
Architecture Studio for Impact Based Action

Egretcom

KNX
NATIONAL
JAPAN

九州計測器株式会社

LONMARK
INTERNATIONAL

LONMARK
JAPAN

MICROCHIP

PMS

ZETÂ Alliance

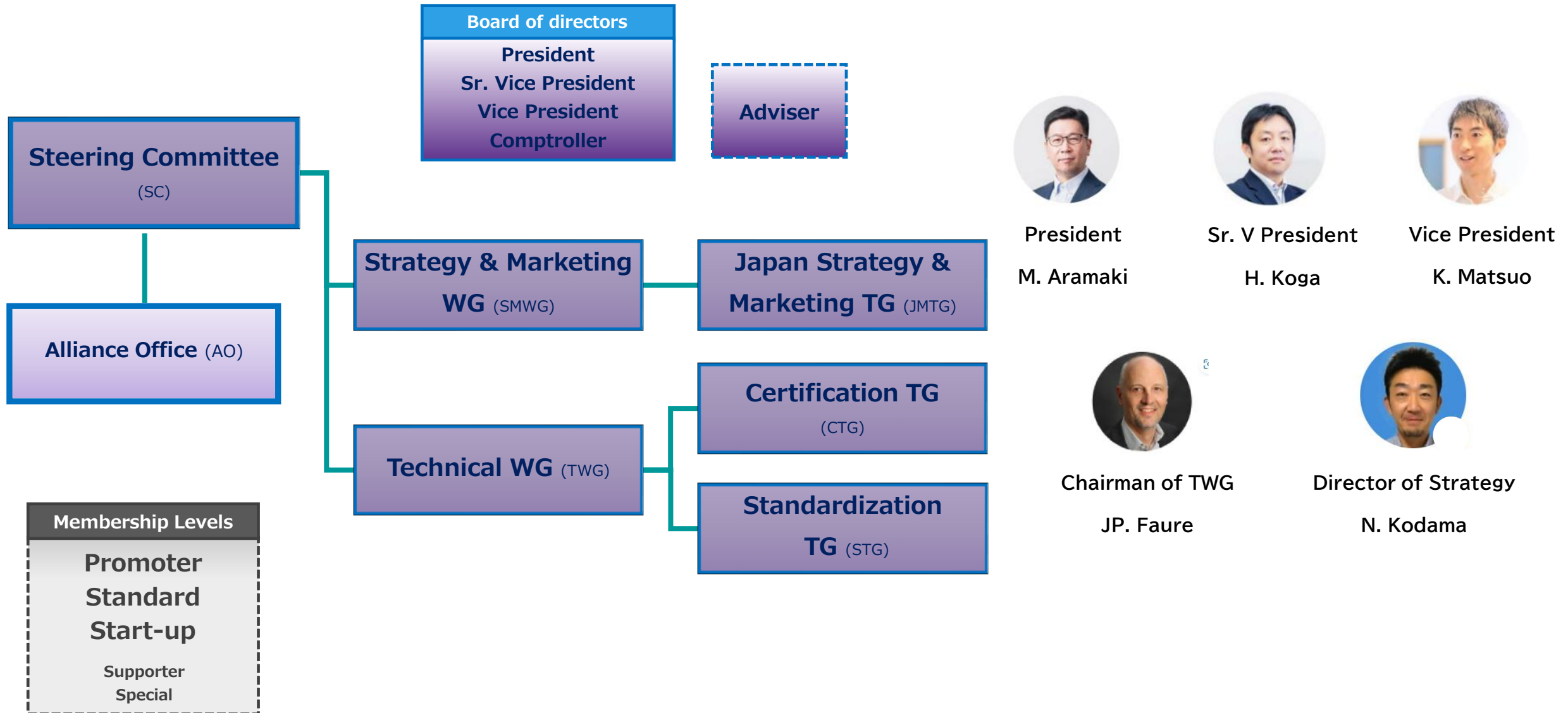
Associate Partner

IEEE

閃联
IGRS

ITRI
Industrial Technology
Research Institute

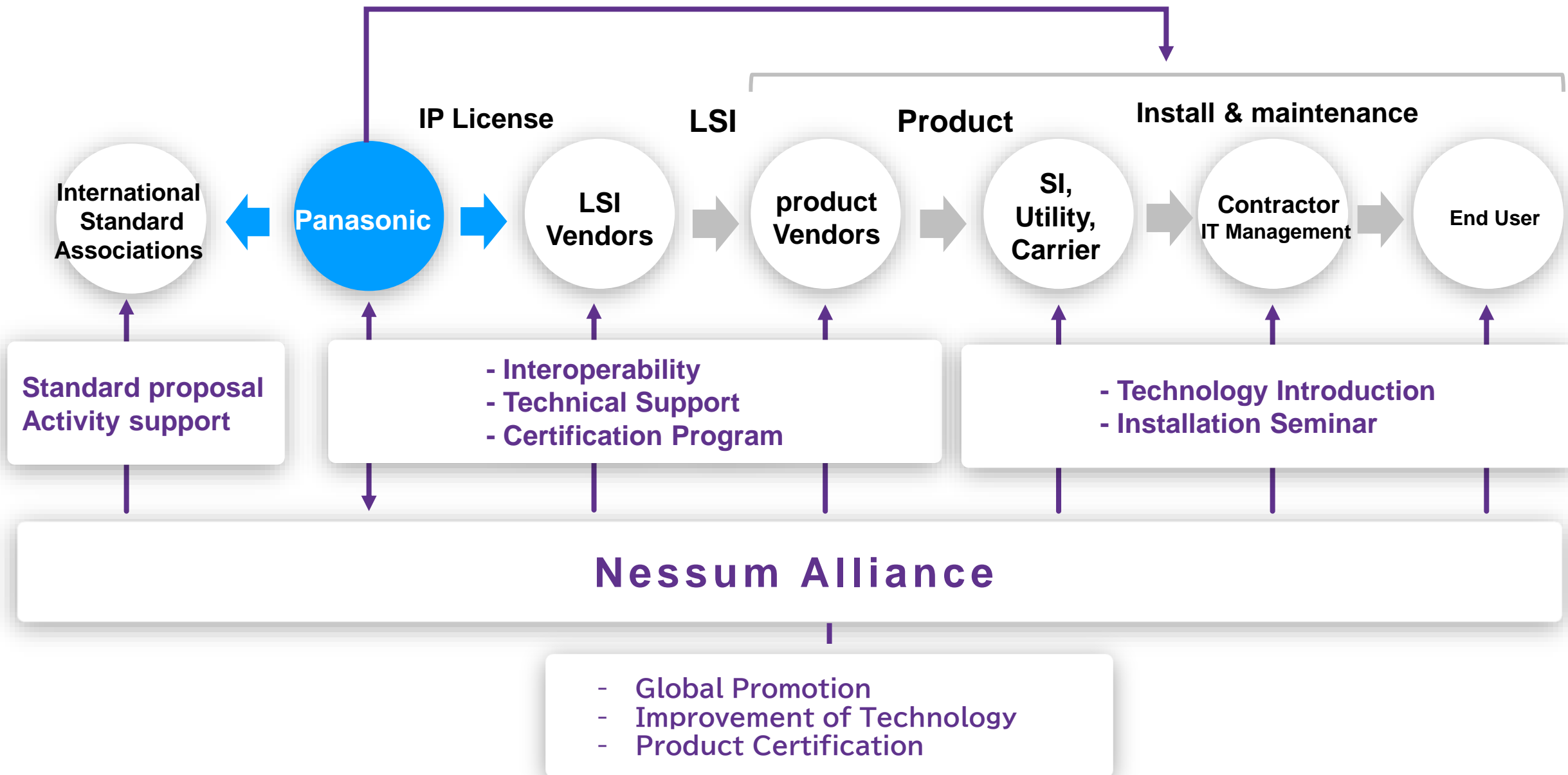
TIC
Telecommunication
Technology
Committee



History in 17 years

- 2007 **HD-PLC Alliance** was established in Japan
- 2011 IEEE 1901 wavelet OFDM certification program
- 2011 ITU-T G.9972, Coexistence mechanism for different BPL
- 2013 Japanese Standard for Smart Meter JJ300.20&21 (echonet light)
- 2013 China National Standard for IGRS PLC GB/T 29265.305-2012
- 2015 ITU-T G.9905 MultiHops CMSR for BPL
- 2018 IEEE 1901-2020 released
- 2019 IEEE 1901a was published
- 2022 IEEE 1901b was published
- 2023 Renamed to **Nessum Alliance**
- 2024 IEEE 1901c was published

Supported Total Value Chain



Nessum certification logos



Nessum Core technology developed by Panasonic, available over various communication media such as wired, wireless, and underwater. It is standardized internationally as IEEE 1901.

Reasons for Nessum WIRE adoption

1. Low-cost network construction



Camera



Video intercom



Street lights

2. Faster wired communication



PV



HVAC



Video intercom



Smart Meters

3. Higher security



Chemical plants

4. Wireless complements



Elevators



Underground and tunnel



Ship

5. Long distance



Smart Meters



Buildings

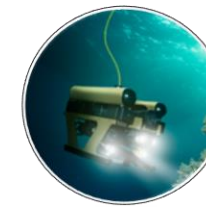


Factories

6. Reduce cables



Robots



Underwater drone

Important Features of Nessum WIRE

Large Scale Network



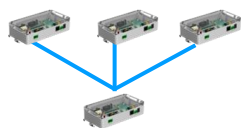
Master



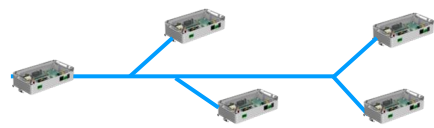
Up to 1024

Terminals

Free Topology



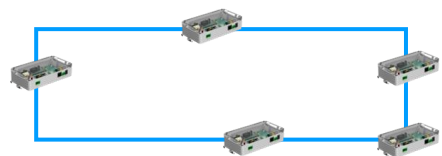
Star



Tree



Daisy chain



Ring

IP Communication



analog



Nessum LSI inside



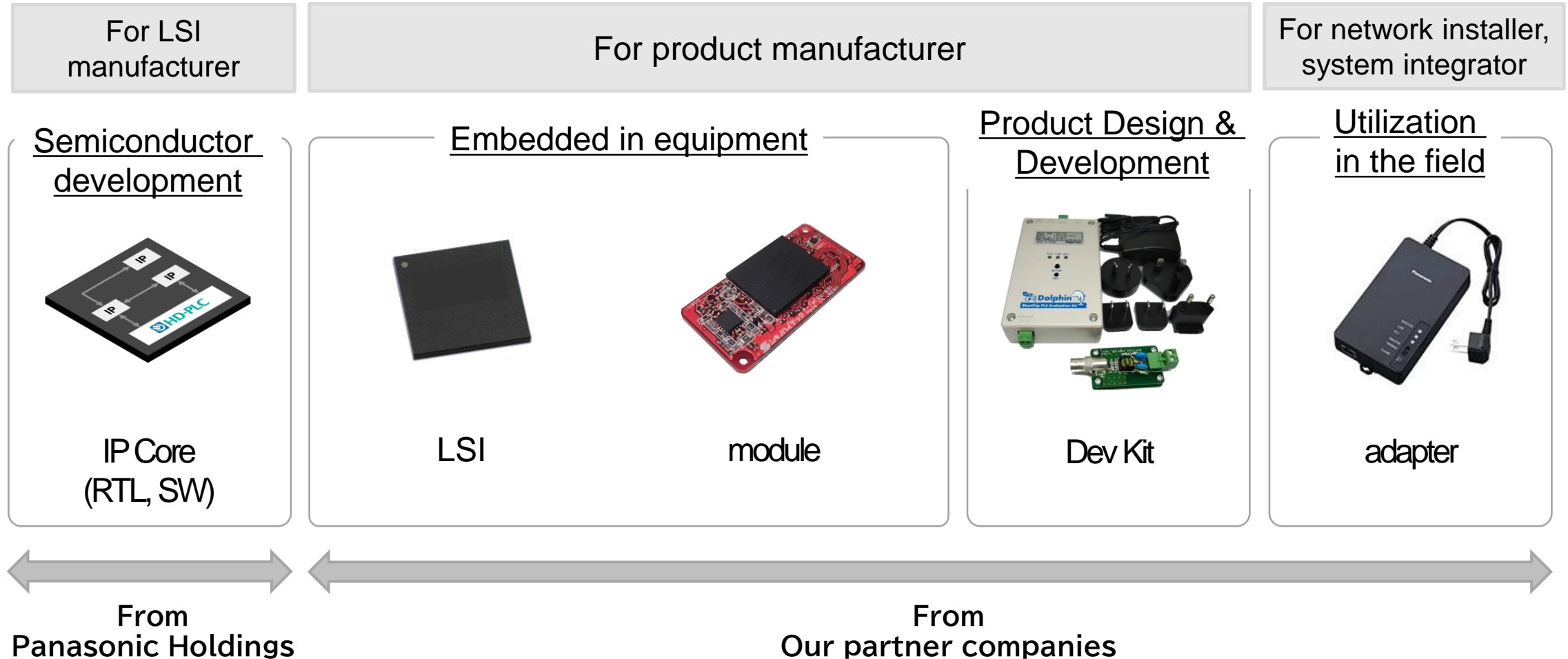
IP*



with the same cable

*Serial communication bridges are also possible.

Products and expertise to suit your application



Significance of Activities as the Nessum Alliance

- For wide adoption of Nessum technology, it is essential to have the entry of many partner companies from LSI and modules, ensure interoperability, share utilization know-how, and engage in mutual improvement to enhance technology.

➔ **The core HUB** for this is the Nessum Alliance.

- Application of CMSR multi-hop technology and channelization have improved long-distance communication and robustness.

We recognize that Nessum, as BPL PLC technology, is still in the process of improvement.

➔ Moving forward, we will continue to challenge technological evolution through experiments in challenging communication environments, such as **underwater communication**.

Significance of Activities as the Nessum Alliance

- By expanding the demand for Nessum LSI and other technologies from power line communication to communication lines and wireless, we can contribute to corporate profits and lead to cost reductions.
➔ **Any-Media solution with Nessum Wire / Nessum Air**

Any media communication services by Nessum

<p>Wired communication prioritizes security</p> <p>Plant security systems</p>	<p>Thorough monitoring with existing lines</p> <p>Plant visualization systems</p>	<p>Fewer breakdowns, more production</p> <p>Smart factories</p>	<p>Underwater wireless communication for IoT coastal works</p> <p>Underwater drone systems</p>
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<p>Confined spaces are our specialty</p> <p>Wi-Fi environment in a tunnel</p>	<p>Reliable power supply based on one-on-one communication</p> <p>e-Mobility power management systems</p>	<p>Close to perfect parking management system</p> <p>Mobility sharing management systems</p>	<p>Traffic safety with leading technology</p> <p>Smart traffic systems</p>
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<p>Less damage to buildings, greater peace of mind</p> <p>Surveillance systems for historic landmarks</p>	<p>Simple wiring, simple maintenance checks</p> <p>Integrated elevators</p>	<p>Easy construction & eco solutions for the entire building</p> <p>Smart HVAC systems (commercial air-conditioners)</p>
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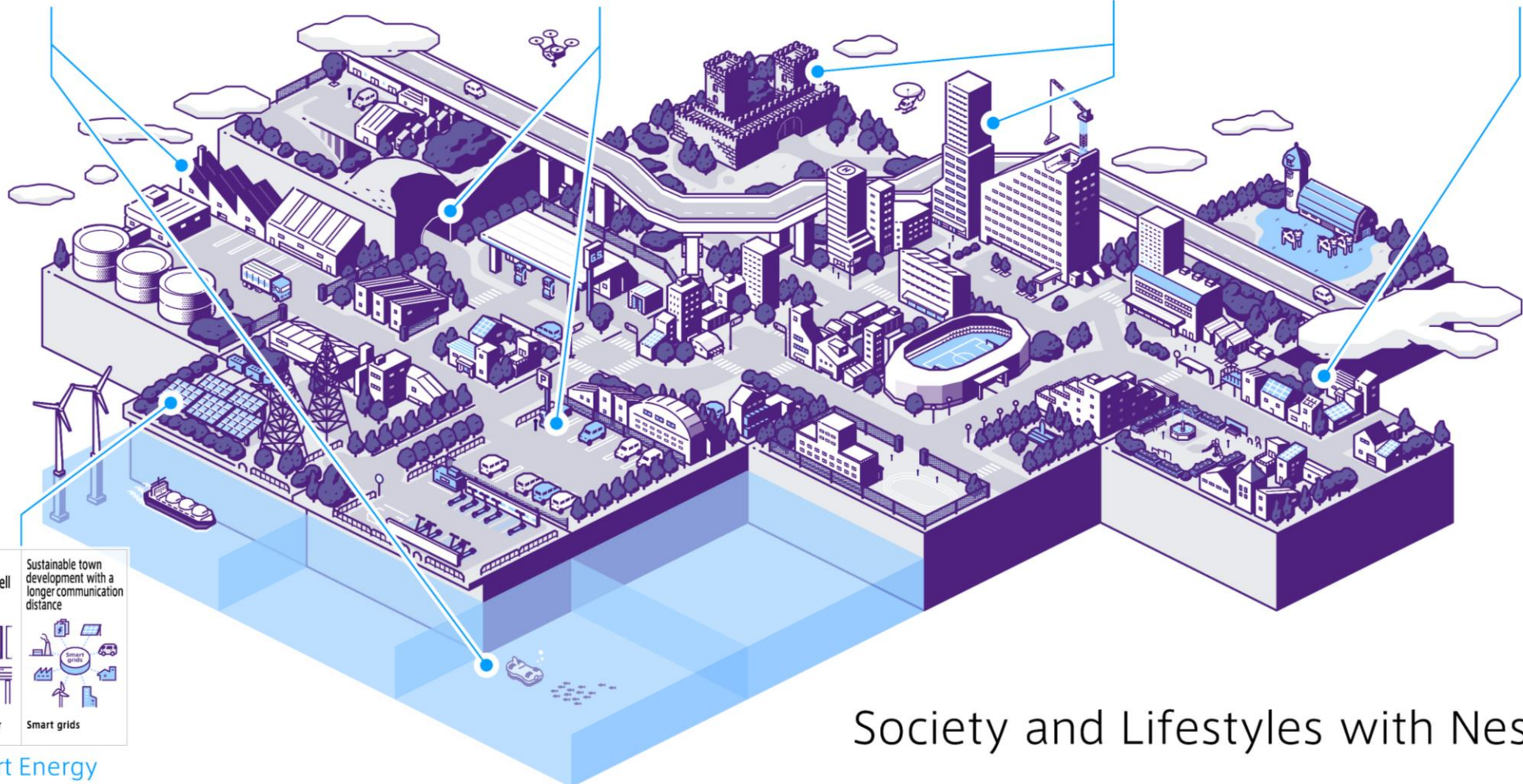
<p>Even the installation time can be reduced</p> <p>Smart locks</p>	<p>Higher-speed communication helps energy conservation</p> <p>Home Energy Management System (HEMS)</p>
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Smart Industry

Smart City & Mobility

Smart Building

Smart Home



<p>Reducing CO₂ emissions as well as costs</p> <p>Smart wind power generation</p>	<p>Sustainable town development with a longer communication distance</p> <p>Smart grids</p>
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Smart Energy

Society and Lifestyles with Nessum

Aiming for standard adoption
in smart city communication infrastructure

Thank you

Nessum

EU Day 2024

