

Energy Solution Business Pioneered by Hitachi and Hitachi ABB Power Grids

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Energy Producers

- Progress in decarbonization and a shift to renewable energy
- Large-scale centralized power supply and distributed power supply

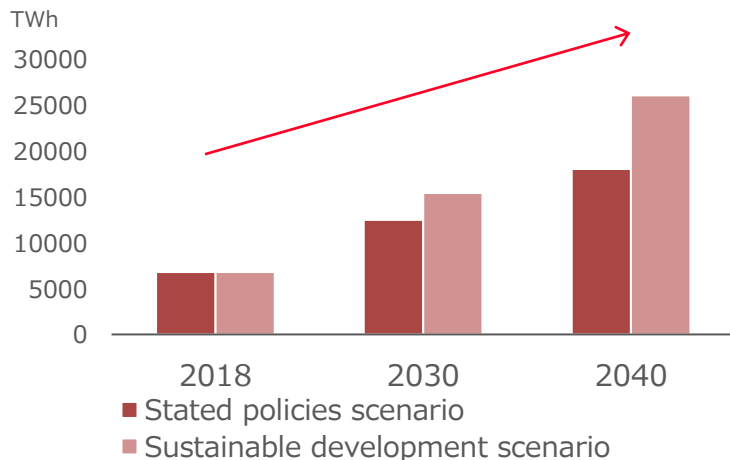
Energy Users

- RE100 membership expansion (200+companies)*
- Increased electricity demand
 - Expansion of the data center scale
 - Electrification of industries
 - Expanded introduction of EVs

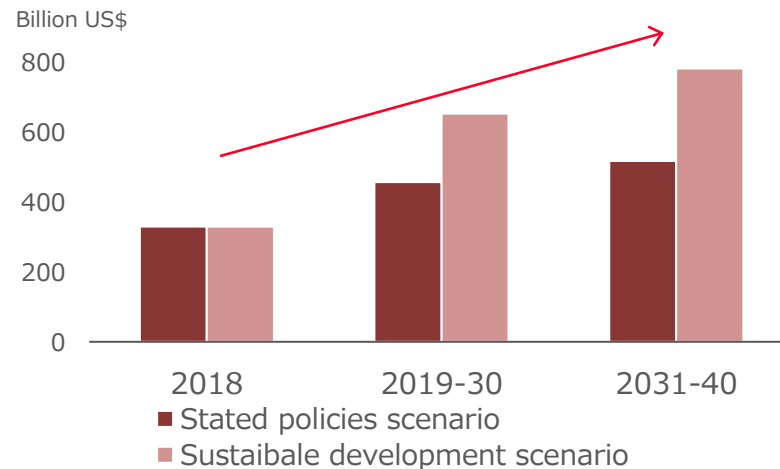
Strong Investment in Renewable Energy

- Under various countries' current development plans, renewable energy generation will grow at a CAGR of around 4.5% and annual investment will be more than US\$300 billion
- Increased generation and investment are needed for sustainable development
- To utilize renewable energy, **the development of power grids is essential** (e.g. supply-demand adjustment, power system interconnection)

Global renewable electricity generation



Global annual average investment in renewables



Source : IEA World energy outlook 2019

Stated policy scenario: scenario incorporating development plans that have been published in various countries

Sustainable development scenario: scenario for achieving the goals set out in the Paris Agreement

Overview

- Power grids business was spun off from ABB and Hitachi acquired 80.1% of shares on July 1, 2020
- After three years (2023) of the joint venture's establishment, Hitachi will make it a wholly owned subsidiary

Business value

- Enterprise value is worth US\$11 billion (1,188.0 billion yen)
- Share purchase price is approx. US\$6.85 billion (740.0 billion yen), 80.1% of the equity value of approx. US\$8.55 billion

Finance

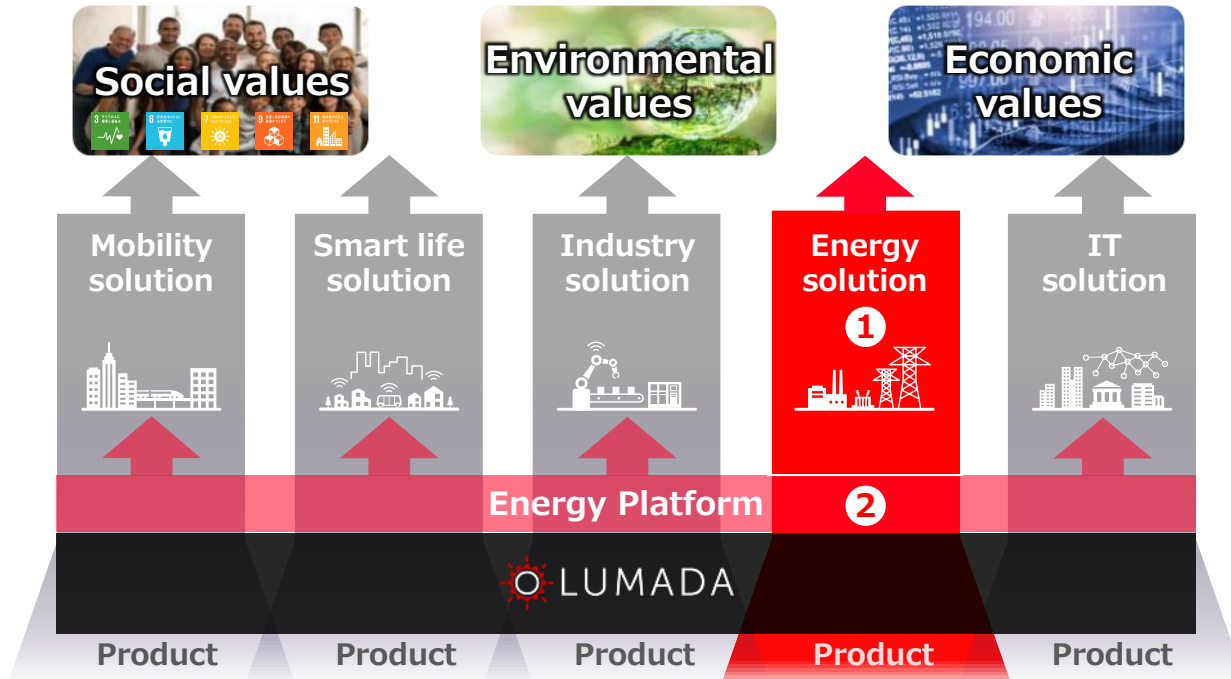
- Acquisition fund was provided by cash on hand, straight bond and debt

Solvency

- Impact on consolidated B/S is currently under review
- D/E ratio will temporarily exceed 0.5x but will soon return to under 0.5x as we build up operating cash flow and sell assets
- New company is cash positive, and we'll be able to create cost synergies soon

Aims of the Acquisition

- Strengthen and expand energy solutions business globally as a core of Social Innovation Business
- Accelerate Hitachi's transformation into a truly global company by integration with advanced global management of the new company



Assets acquired

1 Business basis

- ✓ Global No. 1 position for T&D products and services

2 Management basis

Customer base and human resource

- ✓ Global footprint (around 90 countries and regions)
- ✓ Number of customers (15,000+)
- ✓ Sales sites (approx. 200)
- ✓ Talented employees (approx. 36,000)

Business infrastructure

- ✓ Global operations
- ✓ Global back office functions

- Acquisition of world-class products, systems and solutions
- Strong order backlog; earnings to recover with the convergence of COVID-19

No.1 market share*

Grid automation

Main products and services

- Automation products, systems and services
- SCADA systems
- Enterprise software
- Communication networks

Grid integration

- HVDC transmission systems
- FACTS & power quality systems and services
- Power semiconductors

High voltage

- High voltage switchgears and components (GIS, AIS) up to 1200 kV AC up to 1100 kV DC
- GCB
- Maintenance services

Transformers

- Power Transformers up to 1200kV AC up to 1100kV DC
- Distribution and traction transformers
- Maintenance services

*Based on 2019 orders / a survey by Hitachi ABB Power Grids
SCADA (Supervisory Control And Data Acquisition): remote control monitoring system
FACTS (Flexible AC Transmission System): phase modulator

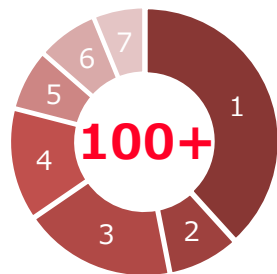
GIS: Gas Insulated Switchgear
AIS: Air Insulated Switchgear
GCB: Generator Circuit Breaker

Management basis: Global Customer Base and Human Resource

- Acquisition of global infrastructure and approx. 36,000 talented employees to drive our Social Innovation Business
- Accelerate collaborative creation with global customers and partners

Strategic clients

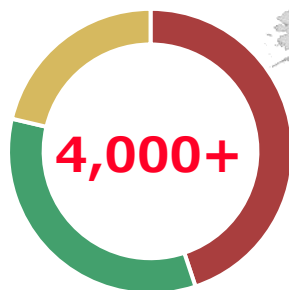
Promote co-creation based on long-term partnerships



- 1. Utility
- 2. Renewable
- 3. Industry
- 4. EPC
- 5. Transportation
- 6. Data Center
- 7. Distribution, etc.

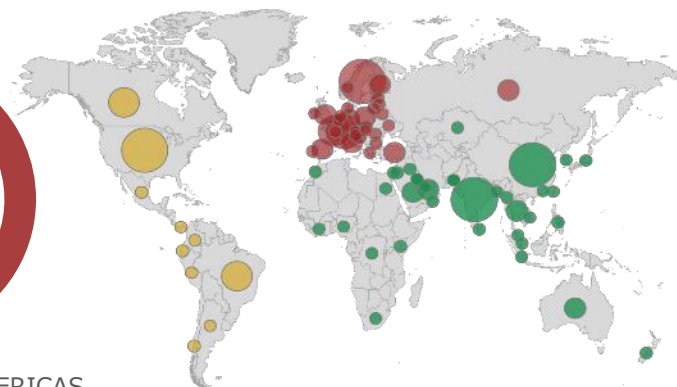
Frontline (sales and marketing) resource

Provide the "required values" in each regions



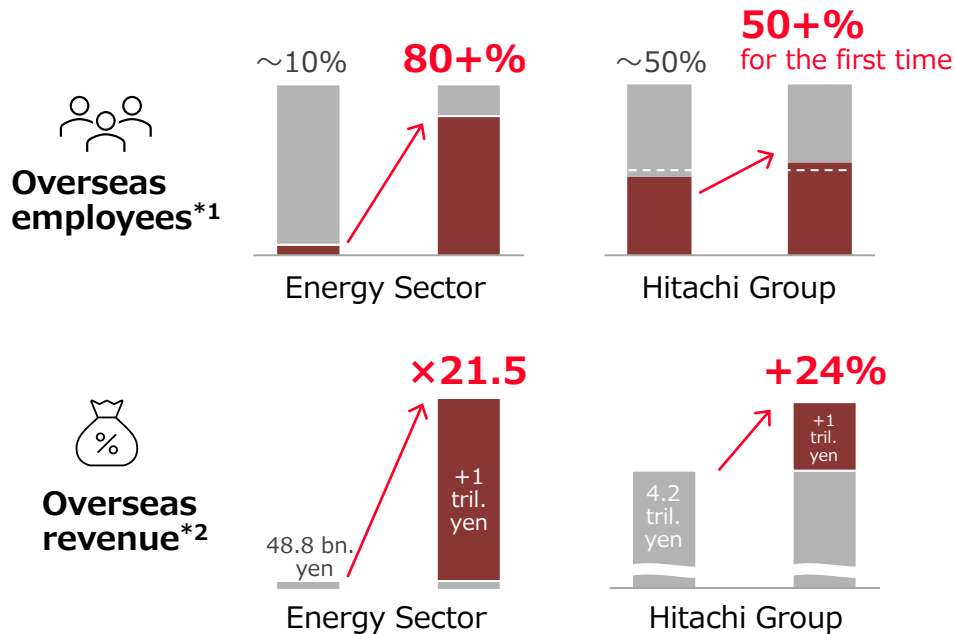
- Europe ■ AMEA ■ AMERICAS

AMEA: Asia Pacific, Middle East and Africa



Hitachi's Progress in Globalization

- Overseas employees / revenue ratio of Hitachi Group jump up with the new company
- Accelerate transformation into a truly global company with further improved diversity



Increase in the number of employees by region with the new company*3

#	Areas with 1,000+ employees (in descending order)	Increase rate
1	Northern Europe	×22.2
2	South Asia	×1.4
3	North America	×1.2
4	Eastern Europe	×3.9
5	East Asia	×1.0
6	Western Europe	×1.2
7	Central Europe	×2.1
8	South America	×2.9
9	Middle East	×4.2
10	Southeast Asia	×1.1

*1 Based on an outlook of Hitachi's headcount (as of March 31, 2021), incorporating major reorganizations in FY2020

*2 Based on a simple sum of Hitachi's FY2019 revenue and the new company's revenue that is assumed to be 1 trillion yen

*3 Based on a simple sum of number of employees of Hitachi Group (as of March 31, 2020) and the new company by region

North America

Progress of digitization

- High value digital solutions
- Energy blockchain

Europe

Eco-friendly grid

- EV + EV charging stations
- Hybridization in railways

Middle East

Post-oil & gas

- Utilization of renewable energy
- Smart urban infrastructure

India

High economic growth

- National grid maintenance + digitization
- Energy management for industrial conglomerates

China

Transformation of energy portfolio

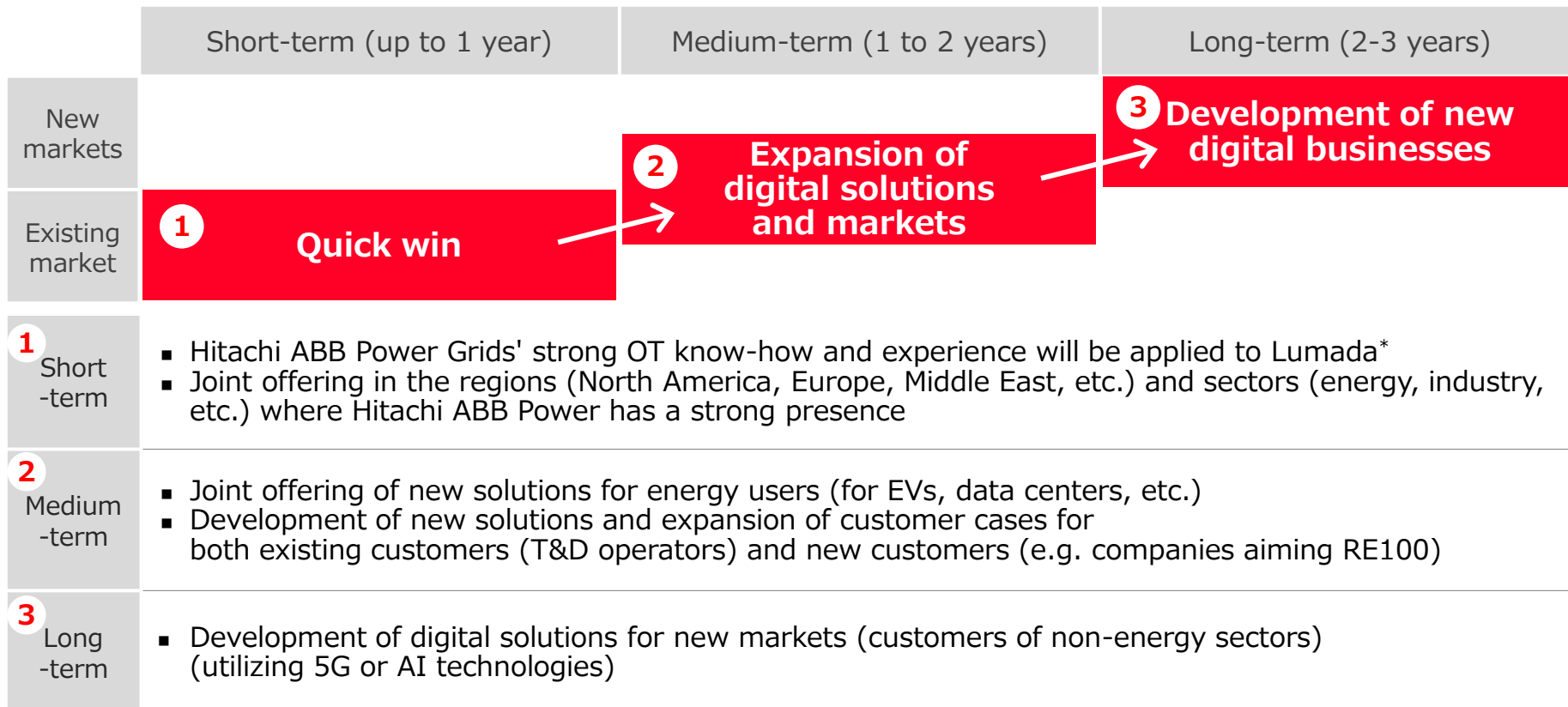
- From coal to renewable energy
- Eco-friendly grid (EV expansion, zero waste energy)

Japan

Grid transformation and higher resilience

- Grid development, enhancement by digital solutions

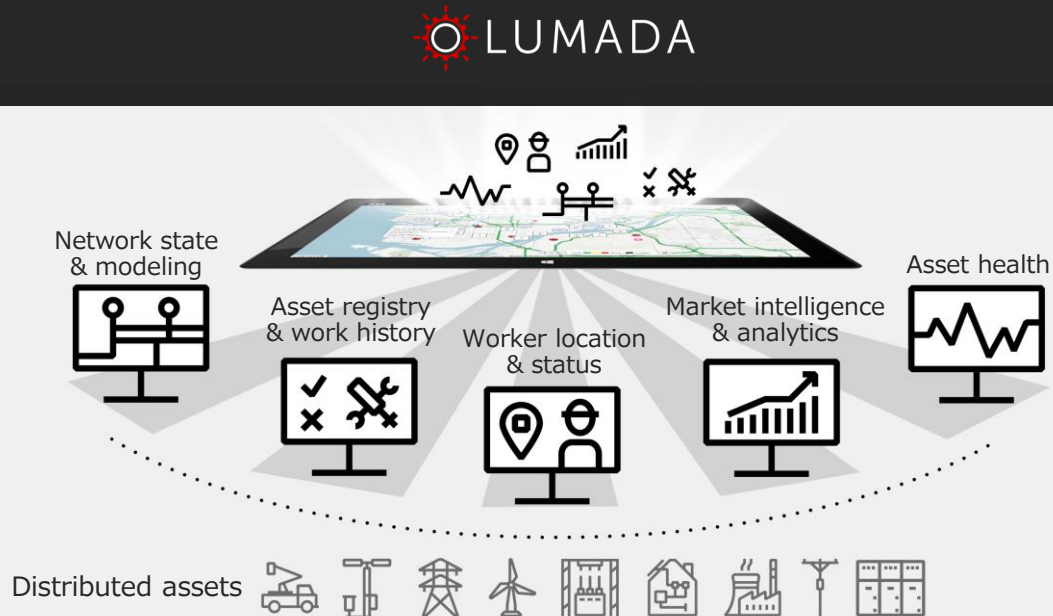
Business Expansion in 3 Phases Leveraging Global Infrastructure



* Hitachi's advanced digital solutions, services, and technologies for turning data into insights to drive digital innovation
OT: Operational Technology

Short-Term: Expand the Customer Value Achieved from New Company's Energy Solutions with Lumada

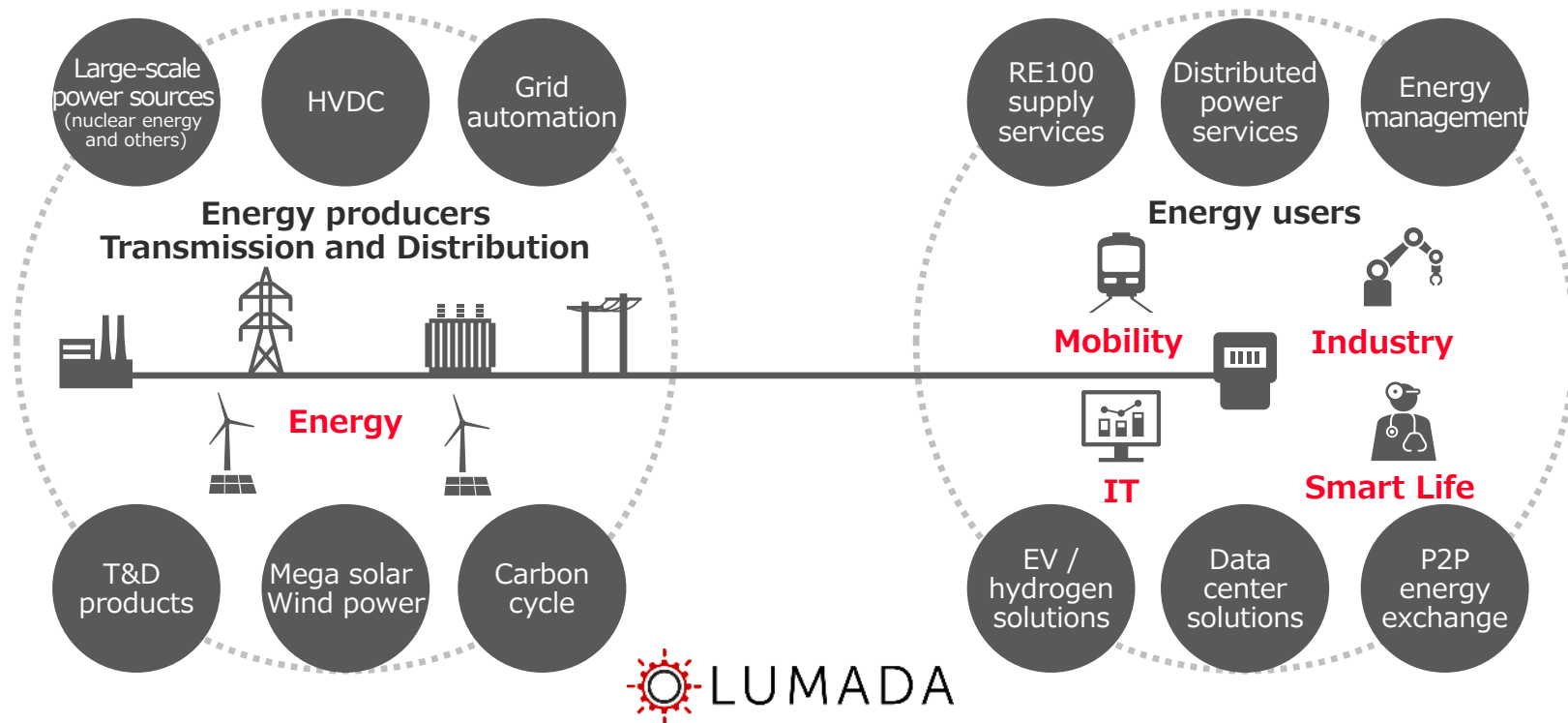
- Hitachi ABB Power Grids' modular software approach allows for integration of OT and IT data sources and is well positioned to leverage the power of Lumada



Hitachi ABB Power Grids' Digital Enterprise Suite

Medium to Long-Term: Development and Deployment of New Energy Solutions

- Co-creation of new solutions with both customers within the Energy Sector (energy producers and T&D companies) and new customers, such as from the Mobility and Industry Sector



Combining digital technology with world-class power grids business
to lead the global power grids transformation
Becoming a global leader in Social Innovation Business

HITACHI

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ABB

Leading innovation with digital technology

- Building on the history of IT×OT×products and our diversified business portfolio to expand Social Innovation Business
- Drive customers' DX by co-creations and Lumada



The world's leading power grids business

- No.1 products, software and systems
- Excellence in global operations
- Strong and global customer base
- World's largest installed base

Energy sector



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Executive Vice President
and Executive Officer



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Senior Vice President
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CEO

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Duncan
Hawthorne



Manuel
Valverde



Timo
Ihamuotila



Frank
Duggan

Hitachi Group

ABB Ltd

Hitachi Social Innovation is

POWERING GOOD

HITACHI
Inspire the Next 