

KEPCO KDN

Smart Energy Infrastructure Study Tour Presentation

October 31, 2024



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Introduction



Introduction

Slogan ECO-friendly, DIGITAL-oriented energy ICT with KEPCO KDN

Mission Contributing to the energy sector through the specialisation of energy ICT

Establishment	23rd January '92
Capital	64,000 million KRW (KEPCO 100%)
Sales	739,453 million KRW (as of 31st Dec '22)
Employees	3,009 (as of 31st Aug '23)
Business Area	ICT services across the entire electric power industry, including power generation, transmission, substation, distribution, and sales
Headquarters	Naju-si, Jeollanam-do



Introduction



UAE Branch	India Branch	South East Asia Branch
Suite 404, SJ Tower, Airport Road, Abu Dhabi, 33693, UAE	A22, Pillaveedu Lane, Kesavadasapuram, Trivandrum, Kerala, 695004, India	Suite 12, 11th fl., Charmvit Tower 117, Tran Duy Hung, Trung Hoa Ward, Cau Giay, Hanoi, 10000, Vietnam

Smart Power Supply Projects



Power generation & Dispatch

- ▶ Plant construction & facilities management system
- ▶ Digital twin-based smart safety solution
- ▶ EMS (Energy Management System)



Transmission & Transformation

- ▶ Supervisory Control and Data Acquisition (SCADA) system
- ▶ Intelligent State Diagnosis System for Embedded Power Transmission Structures



Distribution

- ▶ DAS (Distribution Automation System)
ADMS (Advanced Distribution Management System)
- ▶ DER (Distributed Energy Resource) Management System
- ▶ Microgrid Energy Management System (MG-EMS)
- ▶ Underground Power Facility Management System

Power Information Efficiency Projects



Sales

- ▶ AMI (Advanced Metering Infrastructure)
- ▶ DCU (Data Concentration Unit)
- ▶ Power sales & distribution information system 4.0



Management

- ▶ ERP (Enterprise Resource Planning)
- ▶ Cloud-based ICT service establishment
- ▶ Construction of telecommunications management network for power utilities
- ▶ Integrated power communication infrastructure using cloud



Future Growth Projects



New Energy Business

- ▶ New and renewable energy equipment optimization system
- ▶ Electric power big data solution
- ▶ Smart city building
- ▶ Security control and consulting



K-GIS (KEPCO KDN-Geographic Information System)

- ▶ Space data-based support for various power tasks
- ▶ Real-time power system analysis and load control, outage response



Track Records (recent three years)

Job Title	Field	Location	Contractor	Amount(KRW)	Period
F/S for demonstration of All-Solid-State batteries	ESS	Indonesia	KIAT	42,075,000	'23.09.01 ~ '23.12.31
Computer Facilities Maintenance (commercial SW)	Software	Korea	KEPCO	20,696,004,241	'24.01.01 ~ '24.12.31
Replacement of ageing equipment for UAE power plant	O&M, Nuclear Power Plant	UAE	KHNP	517,000,000	'22.01.20 ~ '22.05.31
ESS installation for Peak cut in Sri Lanka	ESS, Energy Efficiency	Sri Lanka	KIAT	80,000,000	'22.05.01 ~ '25.12.31
Establishment of PV & EV systems to mitigate GHG	Renewable Energy, e-Mobility	Indonesia	KIAT	961,663,000	'22.05.01 ~ '26.12.31
2024 Cyber safety center operation	Security system	Korea	KEPCO	9,110,963,636	'24.01.01 ~ '24.12.31
'24~'25 Electricity IT(EMS SW) maintenance consignment service	EMS	Korea	KPX	2,874,213,747	'24.02.01 ~ '25.11.30
F/S for the construction of DAS system in Nicaragua	Power Distribution	India	KIAT	26,300,000	'21.09.01 ~ '21.12.31
'24~'25 SCADA System maintenance	SCADA	Korea	KEPCO	2,167,529,192	'23.09.27 ~ '25.09.26
Short-term technical support for Hitachi Juo PV power plant	Renewable Energy	Japan	KEPCO KDN	112,678,500	'21.07.01 ~ '22.06.30
2024 Low Voltage AMI Communication Network Reinforcement	AMI	Korea	KEPCO	1,605,300,000	'24.03.01 ~ '25.01.24

▶ KIAT : Korea Institute for Advancement of Technology

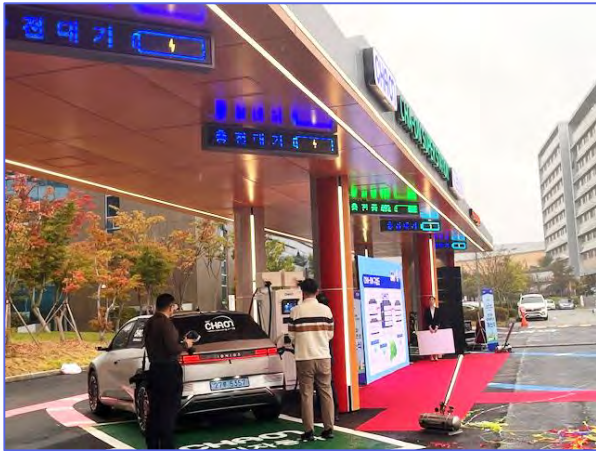
▶ KHNP : Korea Hydro & Nuclear Power Co., Ltd.

▶ KPX : Korea Power eXchange

CHA-ON : Electric Vehicle Charging Service



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Opening Ceremony (Oct 22, '24)



Slow Chargers

Five PLC*-based slow chargers (7 kW), developed by KEPCO KDN, are currently in use for charging electric vehicles at the headquarters

Fast Chargers

Installed three fast chargers (250 kW) to conduct interoperability tests between the proprietary operating system and chargers from other providers

Cyber-security Centres

May '06	<p>National Cybersecurity Strategy : Establishment of Cyber-security Centres in additional industry fields</p> <ul style="list-style-type: none"> - Applied fields: Defense & Security, Administration, Finance, Communication - Newly added fields: Energy, Transportation, Education, Health, Diplomacy
July '08	Opening of Cyber-security Centres (28 members)
Dec '13	Relocated to MOTIE office in Sejong, from KATS in Gwacheon
'22 ~ Present	<p>53 members and more services</p> <ul style="list-style-type: none"> - Cyber-security Monitoring, vulnerability assessment - Penetration testing



THANK YOU

— KEPOC KDN Presentation —

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