AI·SW HVDC Integrated Power System Innovation Research Center

01 October Highlights

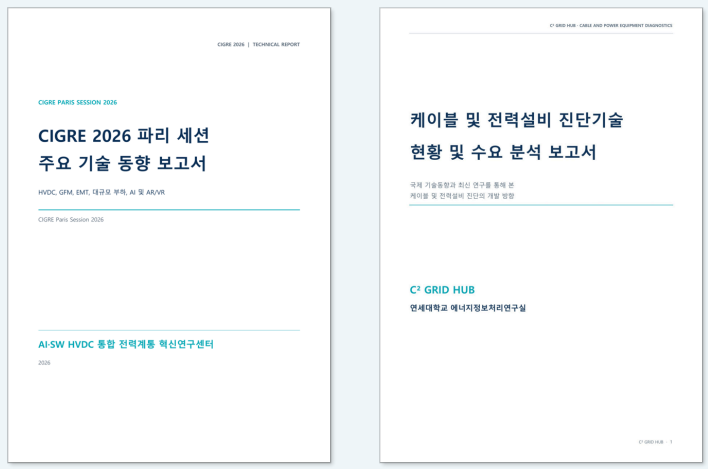
C2 GRID HUB



OCT 07 · STANDARDIZATION

KSGA Public Hearing on DER Standards

Researchers attended KSGA's 33rd public hearing at COEX, reviewing draft GFM inverter requirements and controller test methods, alongside standards for distributed resources and AC/DC networks.



OCT 12 · CABLE REPORT / CIGRE REVIEW

HVDC and Cable Technology Reports

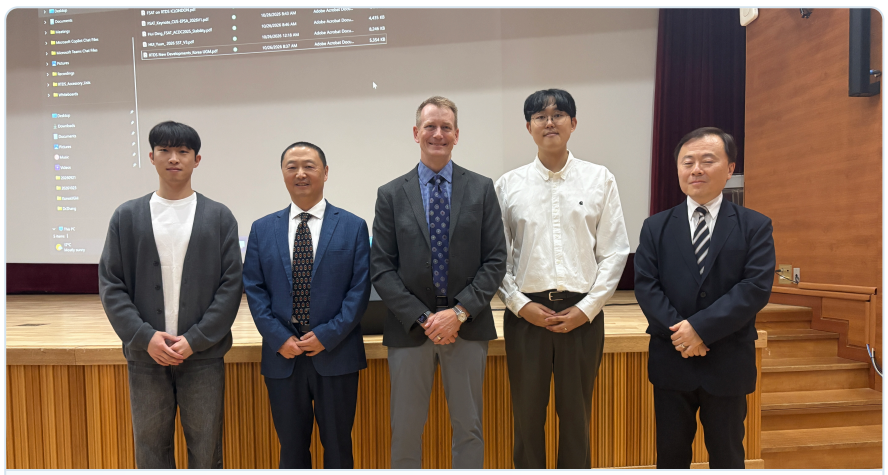
A 136-page review covers CIGRE trends in HVDC, GFM, EMT and AI (Sep 6). The cable team's 40-page report examines partial discharge, degradation assessment, distributed sensing and R&D needs (Oct 12).



OCT 21–24 · CONFERENCE

KIEE Power Engineering Fall Conference

Researchers delivered 13 poster and 2 oral presentations in Jeju. Min-Ju Lee received an Outstanding Paper Award for "Replacing EMT Solver by DeepONet-based Neural Network."



OCT 26–27 · TECHNICAL EXCHANGE

RTDS Korea User Group Meeting

Researchers attended the meeting at KRRI to explore frequency scanning, AC/DC modeling, and Python and AI integration. Building on the MOU with RTDS, they exchanged technical perspectives with international experts.

02 Invited Expert Seminars



OCT 13

Hongju Jeong · Hyosung Heavy Industries

HVDC Trends and Development Experience

Development and verification of the Yangju 200 MW HVDC system and MMC equipment, and upgrades toward 2 GW bipolar systems.



OCT 14 **Yeongseok Lim · LS Cable & System**

Understanding HVDC Submarine Cables

Cable structures, manufacturing, quality assessment, route selection, and submarine cable laying and burial.



OCT 15 **Jong-Pil Lee · KERI**

Future Power Systems for Carbon Neutrality and AI

Power conversion, DC networks and EMT-based stability assessment for renewable generation and growing AI loads.

02 Invited Expert Seminars · Continued



OCT 27 Heejin Kim · UPTEC

Voltage-Source Converter HVDC

Converter operating principles, mathematical modeling, grid-aware dynamic analysis and industrial applications.



OCT 28 Byeong Mo Yang · DNV

Energy Transition and Emerging Grid Technologies

Energy transition outlooks, HVDC and FACTS assurance, cable lifecycle quality management and grid congestion solutions.



OCT 30 Song Ci · Tsinghua University

Digital Energy Processing and Computing

Time-domain energy management, dynamic battery reconfiguration, AI-enabled diagnostics and second-life battery applications.



OCT 30 Liang Min · Stanford University

Powering AI: Electricity Supply for Frontier AI

AI data center load characteristics and grid integration, with strategies for transmission headroom, flexible loads, reliable supply and fair cost allocation.

03 Coming in November

Schedules are subject to change

NOV 12

Power Quality Assessment with High IBR Penetration

Yong-Jun Shin and a colleague · GRAPES IAB / University of Arkansas and others

NOV 12

② Energy Highway and AI Data Center Grid Integration Forum

Julia Matevosyan, Ram Adapa and others · Auditorium B106, Yonsei University

NOV 18

AI DC Grid Solution

Byeonghwan Jeong · Hyosung Heavy Industries

NOV 23

Control and Instrumentation Cable Operation and Diagnostics

Shinho Lee · KINS

NOV TBC

High-Temperature Superconducting Cable Systems

Jinbae Na · LS Cable & System

② NOV 12 · Strategic Forum Program



Program

* Presentation titles and the program are subject to change.

13:25–13:30	Opening Remarks Seungtae Cha, Director | Power System Laboratory, KEPCO Research Institute
13:30–14:20	Invited Presentation and Q&A **Power System Challenges and Strategies for the Expansion of IBRs and AI Data Centers** Julia Matevosyan | ESIG
14:20–15:10	Invited Presentation and Q&A **HVDC and Power Electronics Technologies for Future Power Systems and EPRI Research Trends** Ram Adapa | EPRI
15:10–15:30	Group Photo, Break and Networking
15:30–16:00	Invited Presentation and Q&A **Grid Integration of AI Data Centers and Key Challenges in Korea** Dr. Seungchan Oh | KEPCO Research Institute
16:00–16:05	Panel Preparation
16:05–16:20	Panel Opening Presentation **AI Data Centers in Europe: IBR Grid Integration Issues and Grid Codes** Rena Kuwahata | Agora Energiewende
16:20–17:00	Panel Discussion and Q&A **Technical and Policy Challenges and Cooperation for the Energy Highway, AI Data Centers and IBR Expansion** Chair: Prof. Kyeon Hur

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