



2026 IERE-KEPCO Seoul Energy Equation Workshop
Seoul, South Korea
May 19–22, 2026

KEPCO's Power Industry Robotics Technologies

***Joon-Young PARK**

Group Leader, Safety Laboratory, KEPCO Research Institute, KEPCO

Keywords: *Power Industry Robotics, Hazardous Environments, Autonomous Operation, Safety Enhancement, Field Robotics*

Abstract

KEPCO Research Institute develops robotics technologies for the power industry with a strong focus on safety in high-voltage and hazardous environments. The developed systems include transmission line inspection drones, underground power tunnel inspection robots, live-line distribution maintenance robots, substation security anti-drone systems, and quadruped patrol robots. By combining robotics, sensing, control, and autonomous operation, these systems reduce human exposure to dangerous tasks while improving the safety and reliability of power system inspection, maintenance, and security.