

Huawei and PEA Jointly Release Next-Gen Intelligent Substation Solution

Category: Business

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An event themed **“AI Empowers New-Gen Intelligent Substations”** was successfully held in Bangkok where Huawei and Thailand’s Provincial Electricity Authority (PEA) jointly unveiled an innovative next-gen intelligent substation solution, marking a new milestone in the digital and intelligent transformation of Thailand’s power infrastructure.



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William Zhang, President of Enterprise Business at Huawei Thailand, stated, *"The new power system faces trends such as green energy integration and interactive power consumption. Digitalization and intelligence are key to addressing these challenges. As critical nodes in the grid, substations must be upgraded to enhance overall reliability. The solution we launched with PEA uses optical-visual linkage and AI-based predictive maintenance to enable intelligent inspections and efficient O&M, ensuring substations run safely, reliably, and efficiently."*

Pantong Thinsatit, Assistant Governor for Grid Network Operations at PEA, added, *"Digital transformation is essential for high-quality development in the power industry. PEA is accelerating substation intelligence by harnessing innovation to reshape energy services. We've deployed intelligent unattended systems in 467 substations, using cutting-edge*

technology to ensure safe operations. Moving forward, we will push for full automation, eliminate data silos, and integrate smart poles, license plate recognition, battery monitoring, and emergency buttons for rapid, precise responses. This will make intelligent substations central to the energy ecosystem and provide a replicable model for industry-wide digital transformation."

Traditional substations often struggle with three major issues: limited security monitoring, inefficient and error-prone manual inspections, and outdated cabling that causes high latency and poor stability, restricting multi-service processing and intelligent scheduling. Huawei's solution tackles these challenges with three core capabilities:

Perimeter Protection—All-Weather Digital Security

Using fiber optic sensing and AI algorithms, the system automatically detects intrusions, links with video surveillance devices, and allows remote verification—shifting from reactive to proactive security with round-the-clock monitoring.

Intelligent Inspection—Innovative Maintenance

Multi-scenario AI inspection algorithms, computer vision models, and cloud-edge collaboration support automatic meter reading and transformer oil leakage warnings, enabling real-time remote management and minute-level fault responses.

Full Connectivity—Comprehensive Sensing Network

Intra-station passive optical networks (PONs) significantly reduce deployment time and costs, forming the power grid's "nervous system" to deliver reliable, high-speed connectivity for intelligent O&M.

This joint achievement underscores Huawei and PEA's progress in technological innovation and ecosystem cooperation. Looking

ahead, Huawei will continue to work closely with Thai power companies and partners to accelerate the digital and intelligent transformation of the power sector.

