

Hitachi Energy unveils AxoniQ: game-changing solution for the next era of transmission grids

- AxoniQ takes traditional HVDC systems to the next level, supporting efficient and scalable multi-terminal DC grids for the next step in asset and investment optimization
- Pioneering portfolio of three solutions based on advanced power electronics and control, ensuring connectivity, controllability, and protection
- Designed to drive the electrification era with resilient and flexible power transmission



AxoniQ™ from Hitachi Energy helps enable the next generation of multi-terminal DC grids with advanced protection, control, and connection solutions for a more resilient, efficient, and interconnected power system.

London, June 10, 2026 Hitachi Energy, a global leader in electrification, today announced the launch of AxoniQ™, its comprehensive portfolio of solutions for multi-terminal direct current (MTDC) systems. As global electricity demand accelerates, MTDC systems are becoming critical to ensuring a secure, affordable, and sustainable power grid.

As renewable energy deployment accelerates and power systems become increasingly interconnected, MTDC systems help manage congestion and improve resilience by allowing dynamic power flow between multiple terminals and across different energy markets, while supporting faster planning, procurement, and execution of grid projects. By connecting multiple power sources and demand points, MTDC grids enable electricity to be directed where it is needed most.

ENTSO E's Offshore Network Development Plans 2024 report*¹ highlights that by 2040, Europe is moving into a massive scale-up phase of offshore renewables, which requires major

transmission expansion and early hybrid grids. Grids developed with MTDC systems can boost transmission capacity up to nearly threefold in a 2040 scenario.

*1 [Offshore Network Development Plans European offshore network transmission infrastructure needs](#)

Achieving the same capacity and reliability without these solutions would require substantial capital investment. Optimized assets not only translate into fewer converter stations, but also into fewer power cables and lines and a reduced use of land and materials, underpinning a more sustainable energy system for the benefit of both society and the environment.

Marking a significant step toward greater interoperability, the launch of AxoniQ comes as governments and grid operators worldwide accelerate investments in transmission infrastructure toward a fully electrified world to integrate renewable energy at scale, strengthen cross-border interconnections, and improve energy security.

The AxoniQ portfolio combines advanced power electronics and control technologies. It includes:

- **AxoniQ Protect:** An innovative solution that can interrupt a DC fault in less than three milliseconds, it offers fast and effective protection at up to 525 kilovolts (kV). It enables selective fault isolation by disconnecting only the affected section of the DC grid, while the rest of the system continues operating. This continuous, proactive protection enables extremely low losses and the optimal combination of performance, efficiency, and reliability throughout the entire lifecycle.
- **AxoniQ Connect:** A modular DC switching station that enables the connection of new terminals and structures the grid into several protection zones, creating manageable subsystems. AxoniQ Connect ensures reliable service continuity, simplifies maintenance, and supports cost-efficient scalability.
- **AxoniQ Control:** An advanced control system built with interoperability in mind that maintains voltage stability and power balance, optimized power flow, and flexible, market-driven energy exchange. AxoniQ Control addresses congestion and enables quick reconfigurations in the event of disturbances.

Together, the AxoniQ suite of cutting-edge power electronics solutions enables the re-routing of power in real time, rapid fault isolation, and maintaining continuity of power supply while minimizing the impact on the wider grid and avoiding the risk of costly power interruptions. Engineered for interoperability by design, AxoniQ will continue to evolve to enable a sustainable expansion of direct current (DC) grids in the decades ahead.

“Electricity networks are becoming increasingly complex as renewable generation grows and demand patterns evolve. AxoniQ represents a milestone in the evolution of DC grids, enabling the next generation of HVDC systems, helping grid operators integrate renewable power more reliably and affordably while improving grid resilience and transmission efficiency,” said Niklas Persson, CEO, Grid Integration Business Unit at Hitachi Energy. “Hitachi Energy is pioneering the new technology needed today and helping ensure future prosperity.”

The AxoniQ family is part of Hitachi Energy’s Grid-enSure®, a fully integrated solution portfolio to stabilize power systems by strengthening transmission, managing frequency variations and system voltage and addressing capacity constraints. AxoniQ takes its name from axons, the part of a nerve cell (neuron) that carries electrical signals away from the cell body to other neurons, muscles or glands, effectively functioning as the body’s electrical system. Like axons, AxoniQ brings power to life across the grid – intelligently and effectively transmitting electricity

between multiple sources and demand points, acting as the vital connection that enables a more responsive, resilient, and interconnected energy system.

AxoniQ has been researched and developed by Hitachi Energy for more than a decade, and its benefits are demonstrated through the company's work in partnership with TSOs and main industry players with the aim of making future HVDC systems mutually compatible and interoperable by design.

About Hitachi Energy

Hitachi Energy is a global leader in electrification, powering the electricity era to meet the energy demands of today, and the next 25 years. As the energy arm of Hitachi Group, over three billion people depend on our pioneering, mission critical technologies to power their daily lives. With over a century of innovation, we are addressing the most urgent energy challenge of our time: driving the evolution of the world's energy system to ensure abundant, secure, affordable, and sustainable power for today's generation and the next. With an unparalleled installed base in over 140 countries, we are the grid ecosystem partner across the utility, industry, data center, and transportation sectors. Headquartered in Switzerland, we employ over 56,000 people in 60 countries and generate revenues of around \$20 billion USD.

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Through its Social Innovation Business (SIB) that brings together IT, OT(Operational Technology) and products, Hitachi aims to be a global leader in continuously transforming social infrastructure through digital, contributing to a harmonized society where the environment, wellbeing, and economic growth are in balance.

Hitachi operates worldwide across four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – as well as a Strategic SIB Business Unit focused on new growth areas. With Lumada at its core, Hitachi creates value by combining data, technology and domain knowledge to solve customer and social challenges.

Revenues for FY2025 (ended March 31, 2026) totaled 10,586.7 billion yen, with 606 consolidated subsidiaries and approximately 290,000 employees worldwide. Visit us at www.hitachi.com.