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EBOOK

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KEYNOTE

From Silos to System Operations at Scale

Summary

Sabine Erlinghagen took to the stage to explore the ongoing transition from DNO to DSO, highlighting how closing the gap between planning and operations is critical to enabling a new operating model: system operations. She went on to announce an industry first – Siemens has opened its Gridscale X platform, empowering utilities to seamlessly migrate, build, and integrate applications on a unified grid model.

Key Takeaways

1. System operations are now a strategic necessity for future-ready grids:
The session reinforced that system operations have moved from an abstract industry concept to a mission-critical capability. As grids face increasing pressure from renewable integration, new demand, capacity constraints, volatility, and resilience requirements, utilities need scalable ways to operate closer to limits with confidence.
2. Scalability remains the industry's core bottleneck:
The discussion acknowledged that many utilities have already developed their own tools and bespoke applications to solve complex operational challenges. While this demonstrates strong customer ingenuity, it also reveals a broader industry challenge: fragmented systems, costly integration, and limited scalability can prevent isolated innovations from becoming industry-wide progress.
3. Gridscale X is the integral digital backbone that bridges long term planning and real time operations to enable true system operations.
The platform can support self-developed applications, enabling utilities to migrate their own applications onto Gridscale X to run and scale them on a shared grid model, integrating their innovations directly into system operations workflows. This isn't a future vision or concept, this is happening today and demonstratable through the collaboration with Alliander, who have already ported 85 applications on to the Gridscale X platform.

[Learn more](#)

Sabine Erlinghagen
CEO, Siemens



KEYNOTE

Executing the 2030 Vision and Operationalizing System Operations Scale

Summary

Delivered by Joris de Groot, this keynote presents Alliander's journey from long-term energy transition ambition to real-world execution. With rising demand, increasing grid congestion, and the need to maintain reliability while continuing to connect customers, Alliander is redefining what modern system operations can deliver.

The keynote highlighted how Alliander is moving beyond traditional asset-focused grid operations toward a more orchestrated model; balancing capacity, demand, and flexibility across real-time operations, operational planning, tactical planning, and long-term infrastructure decisions. It also showed how deliberate organizational choices, including the creation of a dedicated system operations business unit and a focus on scalable autonomy, have enabled Alliander to turn its 2030 vision into an operational reality

With Grid-as-a-Service now operational and customer onboarding scaling from 700 today to 8,000 by year-end, the message is clear: System operations are no longer a future concept. It is being implemented, proven, and scaled today through strong foundations, new ways of working, and trusted partnerships.

Key Takeaways

1. Execution is the priority. Alliander's 2030 vision is no longer about ambition alone; it is about operationalizing system operations at scale while maintaining reliability and enabling continued customer growth.
2. System operations require a different model. Moving beyond traditional asset-focused grid operations, Alliander is orchestrating capacity, demand, and flexibility across real-time, operational, tactical, and long-term planning horizons.
3. Scale depends on structure, autonomy, and trusted partnerships. Alliander created a dedicated business unit, designed for autonomy, and partnered with Siemens to accelerate value as it scales from 700 customers today to 8,000 by year-end.

Joris de Groot
CTO, Alliander





SESSION

From Capacity Crisis to System Orchestration: Lessons from Utilities Leading the DNO to DSO Shift

Panellists:

Virgilio Bacigalupo, VP of Sales Grid Operations, Siemens

Eva Tatschl-Unterberger, Managing Director, KNG

Sigurd Kvistad, Head of Division Operational Control, Elvia

Maaïke Walda, Director of System Operations, Alliander

Summary

This panel brought together leaders from Siemens, KNG, Elvia, and Alliander to discuss how utilities are addressing rising capacity constraints. The discussion explored the transition from asset-centric DNO models to system operations, where capacity, flexibility, and demand are actively managed across real-time operations, planning, and long-term investment decisions. It also highlighted different utility journeys, including Alliander's dedicated System Operations business unit, KNG's focus on planning and ADMS, and Elvia's operations-led path with Gridscale X.

Key Takeaways

1. The capacity crisis has become a scalability challenge:
Utilities can no longer rely on grid reinforcement alone. The panel emphasized the need to manage capacity, flexibility, and demand more actively as growth accelerates and complexity increases.
2. System operations need clear structure and ownership:
Alliander's experience showed that system operations require autonomy, ownership, and a mandate to innovate, as they cut across real-time operations, planning, and long-term investment decisions.
3. Utilities may start from different points, but they are moving toward the same goal:
KNG, Elvia, and Alliander each began from a different starting point, yet all are progressing toward more flexible, resilient, and actively managed distribution systems.

SESSION

Cloud as a Catalyst: PPC's Journey to a Digital, Data-Driven PowerTech Leader

Summary

PPC's transformation demonstrates how an incumbent utility can move decisively toward a digital, data-driven PowerTech model. By placing cloud at the center of its reinvention, PPC is enabling secure modernization, faster diversification, AI-enabled operations, and more customer-centric services while supporting efficiency, growth, resilience, and regional scale.

Key Takeaways

1. Cloud is a strategic enabler, not an IT exercise. For PPC, cloud provides the secure, flexible foundation needed to modernize the grid, support electrification, integrate distributed energy resources, and accelerate new business models.
2. AI at scale depends on modern data and cloud foundations. PPC's approach shows that predictive maintenance, forecasting, load balancing, digital twins, and workforce enablement require cloud-ready infrastructure to deliver operational impact.
3. Digital transformation creates measurable business value. PPC's cloud-enabled model supports customer-centric digital services, operational efficiency, regional expansion, and long-term competitiveness as part of its broader 2026–2028 investment strategy.

Alexandros Paterakis
Deputy CEO | Executive Board Member, PPC S.A.





SESSION

Transmission Around the World: One Challenge, Three Perspectives

Panellists:

Jesus Peco, Centre of Excellence for Planning, Iberdrola

Nicolas di Gaetano, Director | Automation Systems, Hydro-Québec

Darlene Phillips, Executive Director | Operations Engineering Support, PJM

Summary

As power systems transform at pace, transmission planning is no longer a long-range technical exercise, it is becoming a strategic priority. This session brought together three global perspectives to show how different parts of the world are navigating the same fundamental challenge: planning faster, with more complexity, and with greater confidence.

Key Takeaways

1. A shared global challenge is emerging:
Across regions, transmission systems are under pressure from accelerating demand growth, renewable integration, resilience needs, regulatory expectations, and infrastructure timelines that struggle to keep pace.
2. Planning is becoming more complex and time-critical:
Today's planners must manage longer horizons, larger data volumes, more scenarios, and greater coordination demands – while still enabling timely, confident decisions.
3. The future of planning must be more agile and integrated:
To remain fit for purpose, transmission planning will need to evolve through greater automation, interoperability, scenario coverage, collaboration, and speed.

SESSION

Unlocking the Next Era of Transmission Planning – The Shift Towards Agentic, AI Enabled Planning

Summary

At the Grid Software Summit, Sabine highlighted a pivotal shift in transmission planning, building on 50 years of PSS E to enter a new era of agentic, AI driven workflows. With growing urgency driven by renewables, AI, and grid complexity, the focus is no longer on managing complexity but accelerating answers. The latest evolution with Gridscale X PSS E brings together automation, improved usability, and agentic AI, enabling systems that don't just support engineers, but actively help run and interpret studies, unlocking faster, more confident planning decisions.

Key Takeaways

1. Transmission planning is at an inflection point:
Grid planning faces unprecedented urgency as renewables, electrification, and AI driven demand accelerate; the challenge has shifted from managing complexity to delivering fast, confident answers at scale.
2. Agentic, AI enabled planning is becoming reality:
Gridscale X PSS E combines automation, digital twins, and agentic AI to accelerate studies, guide engineers, and expand planning capacity, enabling faster, more consistent, and insight driven decisions.
3. New demand requires new planning approaches:
Data centers and AI factories introduce dynamic, location specific demand; utilities must adopt advanced modeling and faster workflows to assess impacts, unlock capacity, and connect customers without compromising grid reliability.

[Learn more about Gridscale X PSS E](#)

Sabine Erlinghagen
CEO, Siemens



KEYNOTE

Tackling One of the Most Pressing Challenges: Interconnection at Scale

Summary

The session demonstrated how next generation grid planning, powered by Gridscale X PSS E, enables utilities to manage interconnection requests at scale by transforming fragmented, manual workflows into an integrated, AI supported, and highly automated planning process. It showcased an end to end interconnection journey, from case preparation to decision making, highlighting significant gains in speed, clarity, and reliability, while enabling better stakeholder alignment and faster execution in increasingly complex, high demand grid environments.

Key Takeaways

1. Accelerates end to end planning:
Up to 50% faster overall processes, enabled by automation across case preparation, analysis, and decision making – reducing manual effort and speeding up time to results.
2. Turn complexity into clarity:
Integrated workflows and intuitive visualization bring thousands of scenarios into a single, coherent view, improving understanding and stakeholder alignment.
3. Enhances engineering productivity with AI:
Built in Copilot and automation reduce manual effort and shift focus toward analysis and decision-making, improving efficiency and accuracy.

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