US Data Center Daily Briefing

February 04, 2026

KEY THEMES

- $2.0bn senior secured notes for Texas HPC data center completion
- Public/private-backed AI compute platforms expanding (Empire AI >$500m)
- Substation modernization via software-defined protection/automation (GridBeats APS)
- Data centres as grid assets: grid-forming BESS and regulation co-optimization
- Data sovereignty and compliance shaping modular, carrier-neutral, multi-cloud campus design
- Emerging compute roadmaps: quantum-ready hybrid infrastructure and photonic processors
- Macro signal: selective corporate capital allocation with AI infra as a key driver

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Global Data Centres & Power Infrastructure Briefing (UTC 2026-02-04)

Audience: Institutional asset managers and infrastructure fund managers focused on data centres, power, and grid infrastructure.

Top news (3)

1. **$2.0bn debt financing for a Texas HPC build**: Cipher proposes $2.00B senior secured notes for Black Pearl to complete its Black Pearl high-performance computing data center in Wink, Texas (notes due 2031; first-priority liens on substantially all assets/equity; includes reimbursement of ~$232.5m prior equity contributions).
2. **Public/private-backed AI compute platform expands**: Stony Brook joins Empire AI SUNY partnerships to expand access. Empire AI is backed by **>$500m** in public and private funding, is expanding membership, and is accelerating compute scale ("Empire AI Beta" to **11x**).
3. **Grid automation push aimed at modernizing substations**: GE Vernova launches GridBeats™ APS grid automation solution, a software-defined automation/protection system that consolidates "hundreds of packages" into as few as **ten**, targeting reduced hardware and spare requirements.

Key deals & project financing

United States

- **Cipher Mining – Black Pearl (Wink, Texas)**
  - Cipher proposes $2.00B senior secured notes for Black Pearl
  - Structure/terms (as described):
    - **$2.00bn** aggregate principal amount of **senior secured notes due 2031** (private offering) by subsidiary **Black Pearl Compute LLC**.
    - Use of proceeds: finance **completion** of the Black Pearl high-performance computing data center; **reimburse Cipher** for approximately **$232.5m** of prior equity contributions.
    - Security/guarantees: notes guaranteed by **Cipher Black Pearl** and **11786 Wink LLC**; secured by **first-priority liens** on substantially all assets and equity interests.
    - Completion support: Cipher to provide a **completion guarantee** if proceeds are insufficient.

United States (public/private compute investment)

- **Empire AI (SUNY partnership expansion)**
  - Stony Brook joins Empire AI SUNY partnerships to expand access
  - Notable points for capacity outlook and ecosystem building:
    - Backed by **more than $500m** in public and private funding.
    - Expanding membership and compute scale; “Empire AI Beta” expected to accelerate to **11x**.
    - Stony Brook to host an **eight-week paid undergraduate research program** (40 students; **$5,000** stipends each), pointing to workforce/community scaling around the platform.

Power, grid, and interconnection highlights

Grid equipment & automation

- **GE Vernova – substation modernization tooling**
  - GE Vernova launches GridBeats™ APS grid automation solution
  - What’s new:

- **Software-defined** automation and protection system (GridBeats™ APS).
- Designed to consolidate protection/automation into fewer packages (from "hundreds" to as few as **ten**), with the stated aim of reducing hardware and spares.
- Market activity: debuted at **DTECH 2026 (Feb 3–5, San Diego)**.

Data centres as grid assets (research signals)

- **Grid-forming BESS inside hyperscale DCs (load swing mitigation + grid support)**
  - Grid-forming BESS Mitigates Data Center Load Risks and Supports Grid
  - Reported concept/results (simulation-based):
    - Integrating **Grid-Forming BESS** inside hyperscale data centers to manage abrupt power swings from LLM/AI workloads.
    - MATLAB/Simulink simulations show **eight coordinated BESS units** providing instantaneous power during training/checkpoint events, reactive support under single-phase voltage depression, and **seamless islanded operation** with stable voltage/frequency.
- **Co-optimizing multi-site DC workloads with frequency regulation commitments**
  - Co-optimizing Data Center Workloads for Grid Regulation Services
  - Reported approach/outcomes (day-ahead framework):
    - Jointly schedules workloads across geographically distributed data centers while committing regulation capacity for grid frequency regulation.
    - Case studies on a modified **IEEE 68-bus system** with real data-center traces show reduced operating costs and improved revenue–risk trade-offs versus separate scheduling and bidding.

Policy & regulation (data sovereignty and compliance as design constraints)

Europe / UK / Japan (regulatory drivers referenced)

- **Designing for data sovereignty, standards, and jurisdictional constraints**
  - Data sovereignty shaping adaptable data centre infrastructure design
  - Practical implications described by Telehouse/KDDI authors:
    - Data sovereignty should be a **core design principle** (not an overlay).
    - Recommended infrastructure pattern: **modular, carrier-neutral, multi-cloud campuses**.

- Standards highlighted: **ISO/IEC 27001** and **ISO/IEC 27701**.
- Regulatory drivers cited:
  - **DORA** effective **January 2025**.
  - France: **HDS requirements** for EEA hosting.
  - "Strengthened" data-protection measures referenced for the **UK and Japan**.

Technology and compute infrastructure signals (vendor + emerging compute)

United States (vendor roadmap)

- **Dell – quantum-ready hybrid infrastructure positioning**
  - Dell presents quantum-ready hybrid infrastructure and AI at CES 2026
  - What Dell said it is building:
    - "Quantum-ready" hybrid infrastructure integrating **CPUs, GPUs and QPUs**.
    - Emphasis on combining **quantum with AI** for near-term "quantum-inspired" workflows.
    - Alignment with public-private initiatives including the **Genesis Mission**, targeting a **fault-tolerant quantum computer by 2028**.

Germany (photonic compute platform scaling)

- **Q.ANT – scaling photonic computing platform**
  - Q.ANT hires Kim Fischer as VP Marketing and Communications
  - Company details provided:
    - Founded **2018**, headquartered **Stuttgart**.
    - Develops photonic processors (**LENA architecture**).
    - Operates a **TFLN chip pilot line** with **IMS CHIPS**.
    - Shipping **Native Processing Servers** to selected partners.

Capital allocation backdrop (macro signal for DC capex appetite)

- **Standard Chartered – corporate capex selectivity, AI infra as a driver**
  - Standard Chartered: Corporates shift to selective capital allocation 2026
  - Highlights:

- Corporates entering 2026 with stronger balance sheets and shifting to **selective capital allocation**.
- Identifies **AI infrastructure and data centres** as primary investment drivers.
- Notes **$2.6tn** in “untapped working capital” (report based on analysis of **1,080** listed companies).

Two-line close

Large-scale compute demand is pulling through both **major project finance** and **public/private-backed capacity expansion**, while grid modernization and flexibility concepts continue to gain mindshare.
Compliance-driven design (sovereignty, standards, and sector rules) is increasingly framed as a first-order constraint on future campus architecture.

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