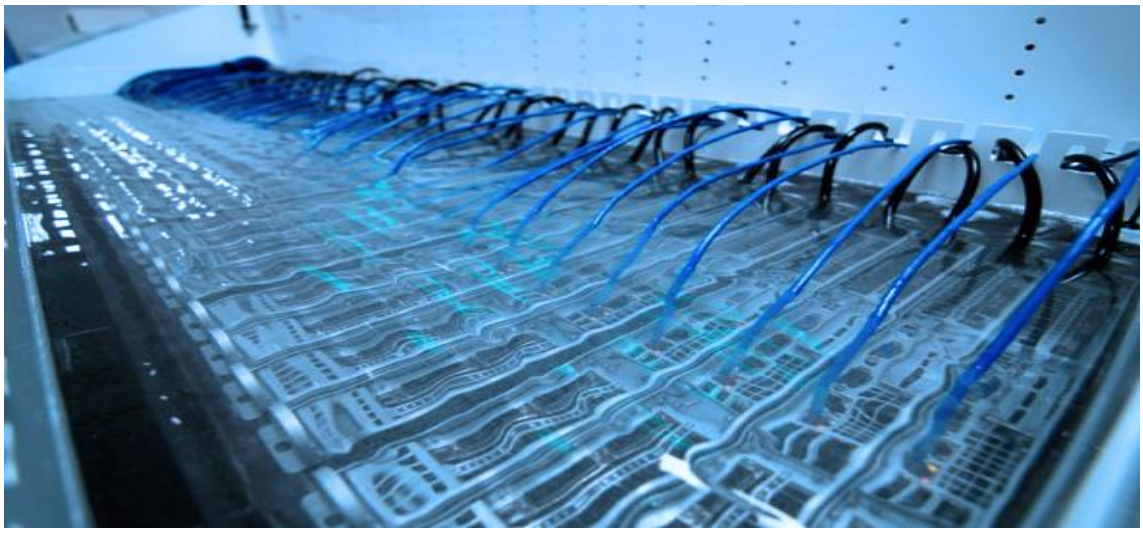
Case Study

ITB Quantum Rise RSE 1A Data Center



Executive Summary

The ITB Quantum Rise RSE 1A Data Center represents a strategic entry by Quantum Rise, an AI consultancy and product development firm, into critical AI infrastructure development. Located in Oklaunion, Texas (Wilbarger County, near Vernon), this early-stage Project leverages the region's abundant renewable energy resources, the Oklaunion Substation, and rural scalability to support High-Density AI workloads. Developed in partnership with the Yates-Moody Construction Team, RSE 1A (likely denoting a Renewable/Sustainable Energy Phase 1A or similar bid/package designation) emphasizes liquid cooling, sustainability, and community integration from the outset. As Texas emerges as a Global AI Data Center powerhouse, this facility exemplifies how AI-native companies are building purpose-fit infrastructure to meet exploding demand while delivering economic revitalization to rural communities. Key outcomes include lower-cost, carbon-aware power; smaller, higher-density footprints; and local job creation through proactive supplier outreach.

Background and Project Overview

Quantum Rise, backed by Erie Street Growth Partners and known for its "Consulting 2.0" AI and automation expertise, announced expansion activities including the acquisition of Brazil-based Dhauz in early 2026. The company is now extending its

footprint into physical AI infrastructure with the Quantum Rise Data Center Project in Oklaunion.

Announced publicly through local channels in Wilbarger County, the Project involves the Yates-Moody Team (Yates Construction and partners) and is actively engaging the community. A Business-to-Business Outreach Event was held at the Wilbarger Events Center invited local businesses to support construction and operations, signaling an emphasis on regional economic inclusion.

RSE 1A is the initial phase of what is expected to be a larger campus, optimized for AI, High-Performance Computing (HPC), and enterprise workloads. It builds on the area's history of infrastructure repurposing, including the former Oklaunion Power Station site now hosting Genesis Digital Assets' Rowdy Data Center (operational at 60 MW with plans to 400 MW). The project aligns with Texas's broader AI infrastructure boom, where Hyperscalers and specialized providers are shifting to rural sites for power and land advantages.

Site Selection Criteria

Oklaunion was chosen for several compelling reasons that address the core challenges of AI Data Centers, power availability, cost, scalability, and sustainability:

- **Renewable Energy Hub**: Situated at the midpoint of extensive wind and solar farms in North Texas, the site offers access to low-cost, clean power. It is equidistant from Dallas and Oklahoma City, providing fiber connectivity while avoiding metro-area constraints.
- **Existing Infrastructure**: Proximity to the Oklaunion Substation (and its historical power plant site) enables rapid grid interconnection within the ERCOT market, with potential benefits from ERCOT-SPP (Southwest Power Pool) HVDC (High Voltage Direct Current) ties for enhanced reliability and renewable integration.
- **Land Availability and Scalability**: Rural acreage supports multi-building campuses with room for future expansion, smaller building footprints enabled by liquid cooling, and minimal community density conflicts.
- **Economic and Regulatory Climate**: Texas's pro-business environment, including data center incentives, combined with local government support

(evident in the Vernon B2B (Business-to-Business) event), facilitates faster permitting and community buy-in.

- **Strategic Fit for AI**: The location supports Quantum Rise's focus on transformative AI solutions by providing the dense, sustainable compute required for training and inference workloads.

These criteria mirror broader trends seen in Sabey Data Centers' nearby Oklaunion campus plans and Google's Wilbarger County announcement.

Technical Design and Innovations

While full specifications for RSE 1A remain in development (consistent with its early 2026 stage), the design draws on industry-leading practices tailored to AI demands:

- Liquid Cooling Focus: From day one, the facility prioritizes liquid cooling (air, hybrid, and full liquid-to-chip) to support high rack densities (likely 50–100+ kW per rack). This enables smaller building footprints, higher capacity, and superior efficiency compared to traditional air-cooled designs—critical for GPU/accelerator-heavy AI clusters.
- AI-Optimized Architecture: As an AI-native developer, Quantum Rise is expected to integrate advanced monitoring, automation, and agentic AI for operations—potentially including dynamic power management, predictive maintenance, and workload orchestration aligned with its consulting expertise.
- Sustainability Features: Designs target Scope 1 and 2 carbon-free operations (aligned with industry goals like Sabey's 2029 target), leveraging on-site or directly procured renewables. Air-permitting activity for "Project Quantum Rise" (including portable concrete plants) indicates early construction readiness with environmental compliance.
- Modular and Scalable Build: ITB (Invitation to Bid) processes likely emphasize modular construction for rapid deployment, with RSE 1A serving as a proof-of-concept phase for larger campus rollout.

These innovations position RSE 1A to handle next-generation AI workloads more efficiently than legacy facilities.

Power Availability

Power is the project's cornerstone advantage. The Oklaunion Substation provides direct access to ERCOT's robust grid and a "tremendous renewable energy hub." Local wind and solar resources deliver abundant, low-cost electricity, supporting significant IT loads while mitigating transmission bottlenecks common in urban markets. The site's history

with large-scale power infrastructure (e.g., GDA's expansion to 400 MW) demonstrates proven capacity for hyperscale demands. Additional benefits include potential co-location with generation assets and grid-stabilizing technologies, ensuring 99.999% uptime for mission-critical AI operations.

Economic and Strategic Impact

The Project delivers multifaceted benefits:

- ✓ Local Economy: Construction and operations are expected to create high-paying jobs and revive economic activity in a region impacted by the 2020 power plant closure. The April 2026 B2B event proactively includes local suppliers, fostering small-business growth and tax revenue.
- ✓ Regional Development: As part of Wilbarger County's emerging data center cluster (alongside Sabey, GDA, and Google projects), it enhances North Texas's position in the Global AI supply chain.
- ✓ Strategic Value for Quantum Rise: The facility secures dedicated, sustainable capacity for its clients' AI initiatives, reducing reliance on third-party Hyperscalers and accelerating innovation in automation and decision-support tools.
- ✓ Broader Texas Impact: Contributes to the State's projected dominance as the World's Largest Data Center market, driven by AI demand.

Learned and Future Outlook

Early Lessons (from public indicators):

- ✓ Community-first engagement (via B2B events) builds goodwill and accelerates permitting/supply chains in rural areas.
- ✓ Early air and environmental permitting demonstrates proactive compliance in a region sensitive to growth impacts.

- ✓ Partnership models (Quantum Rise + Yates-Moody construction expertise) combine domain knowledge with execution speed.

Future Outlook

RSE 1A is poised for rapid scaling as AI compute demand surges. With Texas's renewable resources and policy support, the campus could expand significantly, potentially incorporating advanced technologies like direct liquid cooling for 200+ kW racks or on-site energy storage. Quantum Rise's AI expertise may yield unique operational efficiencies, setting a benchmark for "Intelligent" Data Centers. Challenges such as skilled labor attraction and water usage (addressed via innovative cooling) will be key focus areas, but the trajectory supports long-term growth through 2030 and beyond.

Conclusion

The ITB Quantum Rise RSE 1A Data Center exemplifies the convergence of AI innovation, renewable energy, and rural revitalization in Texas. By leveraging Oklaunion's strategic advantages and Quantum Rise's domain expertise, the project not only addresses the immediate infrastructure needs of the AI boom but also creates sustainable economic value for the community. As construction advances following the April 2026 outreach, RSE 1A stands as a model for future AI-native Data Center developments—efficient, scalable, and community-oriented. This initiative underscores Texas's emergence as the epicenter of Global AI infrastructure.