



How Exberry Enabled Abaxx Exchange to Launch a Next-Gen Commodity Futures Trading Platform

exberry



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Executive Summary

Abaxx Technologies Inc., positioning itself as a pioneer in the commodities exchange space with a particular focus on markets crucial to the global energy transition, faced a critical inflection point in its journey. Its Singapore-based commodity futures exchange and clearinghouse, Abaxx Exchange, needed a flexible, ultra-scalable trading solution to compete with established global incumbents. Abaxx chose Exberry's cloud-native, SaaS-delivered trading technology over traditional legacy systems.

Within just six months, Exberry delivered a fully functional, regulation-compliant trading platform that enabled Abaxx to successfully launch its initial product suite of physically-deliverable liquefied natural gas (LNG) and carbon futures contracts. This partnership demonstrates how modern exchange technology can dramatically accelerate time-to-market while maintaining the robustness and compliance essential for regulated markets. Today, Abaxx operates on a technology foundation that not only addresses immediate needs but provides the essential scalability for ambitious future growth.

Key Achievement

A fully functional, regulation-compliant trading platform built in six months. Since launching in 2024, the platform has supported ten new commodity futures benchmarks across energy, environmental, battery materials and precious metals markets.

Sector	Benchmark Contracts Launched
Energy (3)	Gulf of Mexico (LNG), North Pacific Asia (LNG), North West Europe (LNG)
Carbon (2)	CORSIA Phase One (CPI), JREDD+ (RDI)
Battery (4)	Nickel Sulphate Singapore, Lithium Carbonate (Singapore, Rotterdam, Baltimore)
Precious Metals (1)	Gold Singapore (GKS)

Client Overview



About Abaxx Exchange

Abaxx Exchange, a Singapore-based commodity futures exchange and clearinghouse, operates as part of Abaxx Technologies Inc. The exchange enhances price discovery and risk management for energy transition commodities through its centrally cleared, physically-deliverable futures contracts. On 28 June 2024, Abaxx officially launched with five new benchmark contracts spanning Liquefied Natural Gas (LNG) and carbon markets, providing essential tools for market participants navigating the complexities of the low-carbon transition.

Strategic importance

Competing with established global exchanges demanded a technology stack that broke decisively from convention. Abaxx needed a platform that delivered enterprise-grade performance while maintaining the agility to innovate in emerging markets. Their mission to unlock capital for the energy transition through new benchmarks in energy, environmental and battery materials markets required rethinking legacy approaches. The company recognised early that cloud-native architecture would be essential to their forward-looking strategy, combining both technical excellence and deep domain expertise.

The Challenge

Why Abaxx chose a new trading platform

In today's financial ecosystem, speed to market has evolved from a competitive advantage to a critical requirement. When planning to launch its pioneering commodity futures exchange in Singapore, Abaxx recognised that traditional, legacy trading infrastructure would not support the responsiveness and agility required for modern markets—particularly in fast-evolving sectors like energy and battery materials.

To that end, Abaxx made the strategic decision to adopt Exberry's cloud-native, SaaS-delivered trading technology. Hosted on AWS, Exberry's high-performance matching engine and central order book provided the flexibility, scalability and real-time adaptability that Abaxx needed to bring its new benchmarks to market quickly and confidently. As Abaxx Technologies CEO Josh Crumb noted, this pivot introduced short-term risks but ultimately positioned the exchange for long-term success through advanced infrastructure aligned with the future of regulated trading environments.

Key challenges

Abaxx faced multiple simultaneous challenges in its technology implementation:

- **Adaptable ecosystem integration:** The exchange needed to build a platform capable of integrating seamlessly with multiple third-party systems across the trading ecosystem, from clearing systems to surveillance tools. This required a technology approach that prioritised flexibility and interoperability.
- **Regulatory compliance:** Before launching, Abaxx needed to satisfy the stringent requirements of the regulators. These included both functional requirements – such as advanced price bands for outright and strategy instruments and circuit breakers – and non-functional requirements around security, availability, and resilience.
- **Flexibility, scalability and speed to market:** The system needed to support future asset classes beyond LNG and carbon with a roadmap that included battery materials and precious metals. Abaxx, required a platform that could evolve with its business and enable the rapid launch of new markets, without compromising regulatory readiness.

Regulatory Imperative

Meeting stringent regulatory requirements meant deploying a system with advanced functional capabilities like price bands and circuit breakers, while ensuring enterprise-grade security, availability, resilience and audit trails.

The Solution

How Exberry solved the problem

Off-the-shelf SaaS matching engine

Exberry's solution for Abaxx centres around a matching engine built specifically for the cloud era, delivered as Software-as-a-Service (SaaS). This approach reimagines exchange technology – constructed for maximum scalability without legacy constraints. By eliminating heavy on-premises infrastructure investments, Abaxx gained enterprise-grade capabilities without the traditional capital outlay.

The technology delivers unrivalled price discovery capabilities while maintaining the performance standards essential for regulated markets. While Exberry's cloud-native SaaS trading engine offers impressive technical capabilities – processing up to 1 million trades per second with latency as low as 20 microseconds – the key value for Abaxx was the platform's flexibility and scalability, which aligned perfectly with their strategic needs.

Cloud-based central order book

Exberry delivers its central order book solution via AWS, enabling swift deployment across environments as needed. This approach lets Abaxx minimise testing environments while scaling resources to match demand. The design facilitates continuous delivery with real-time feedback incorporation.

Supporting diverse asset classes and trading strategies, the order book gives Abaxx room to grow their product portfolio organically. AWS's global infrastructure allows operation across multiple regions, enhancing both performance and resilience.

Agile development & continuous delivery

Exberry broke from the traditional exchange implementation playbook by embracing genuine agility. Working in tight 3-week sprint cycles, the team delivered incremental improvements that Abaxx could immediately test and refine. This responsiveness enabled quick adaptation to evolving requirements throughout the project. The team tailored features specifically for commodity energy markets, with

adaptations like customised price limit capabilities that address unique energy market characteristics. Dan McElduff, President, Strategy & Development at Abaxx Exchange, noted that Exberry "was particularly good" at translating commodity market concepts into technical requirements – bridging the gap between market needs and technology capabilities.

Streamlined customisation & parameterisation

Rather than creating custom branches of code, Exberry maintains a single, configurable codebase where client-specific adaptations are implemented as parameters. This unified approach ensures all clients benefit from platform improvements while preserving their unique configurations, and enables seamless updates without operational disruption.

For Abaxx, this approach delivered practical advantages through a rich suite of market tools including multiple matching algorithms, auction models, real-time risk monitoring, price collars, strategy trading and implied pricing – all tailored to commodity markets without requiring custom development work.

Key integrations

Exberry provided robust integration capabilities through its FIX gateway, enabling trading, market data and drop copy connections. This facilitated seamless integration with Abaxx's broader ecosystem, including:

- Baymarkets (clearing and risk)
- Abaxx Tech proprietary system (identity management, trade reporting)
- Trading Technologies (TT) and CQG (trading front ends)
- Eventus (market surveillance)

This integration capability was crucial to Abaxx's "exchange-in-a-box" vision, according to McElduff, bringing together best-of-breed components into a cohesive trading ecosystem.

Technical Excellence

Exberry's cloud-native SaaS trading engine offers the flexibility and scalability crucial for emerging markets, while still delivering the high-performance processing capability (up to 1 million trades per second) that meets the demands of global financial markets.



Implementation & Execution

Collaboration approach

The implementation process exemplified a true partnership between Exberry and Abaxx. Rather than the traditional vendor-client relationship, the teams worked as an integrated unit with shared goals. Weekly iteration cycles allowed for real-time input from Abaxx stakeholders, ensuring the solution evolved to meet their specific needs.

Exberry's SaaS model enabled instant testing and validation of new features. As changes were made, Abaxx could immediately see the impact and provide feedback, creating a virtuous cycle of continuous improvement. This approach eliminated the long feedback loops typical in exchange technology implementations, significantly accelerating the development process.

Implementation phases

Phase 1 Technology stack selection.

This critical phase involved replacing Abaxx's previous legacy system with Exberry's cloud-native solution. The decision represented a strategic pivot from on-premises infrastructure to a more agile, cloud-based approach.

Phase 2 Development & testing

Leveraging its agile methodology, Exberry delivered continuous software releases throughout this phase. Each release was made available in a sandbox environment, allowing Abaxx to test and validate new features as they were developed.

Phase 3 Deployment & regulatory readiness.

The final phase focused on preparing the system for production and ensuring compliance with regulatory requirements. This included comprehensive testing of all functional and non-functional requirements.

Project timeline

The implementation proceeded at an impressive pace, with the full platform delivered within six months. From kick-off to production readiness, the entire project was completed in less than one year – a remarkable achievement for a regulated exchange implementation.

The Outcome

Successful trading platform deployment

The partnership between Exberry and Abaxx resulted in the successful deployment of a fully operational cloud-native trading system. The platform received regulatory approval from the Monetary Authority of Singapore (MAS), enabling Abaxx to officially launch on 28 June 2024, with five groundbreaking commodity futures contracts.

The system now supports LNG, carbon, battery metals contracts and gold futures. On launch day, Abaxx Exchange CEO Nancy Seah declared: "Singapore is the most vital global commodities trading hub in Asia, and with the opening of Abaxx Exchange and Clearinghouse, we are excited to support this leadership in the futures and derivatives markets."

Key benefits for Abaxx

- **Flexibility and adaptability for market innovation:** Exberry's cloud-native matching engine provides Abaxx with the adaptability needed to pioneer new markets. Rather than being constrained by rigid systems, Abaxx can now rapidly respond to market opportunities and evolving requirements.
- **Seamless scalability, allowing easy expansion:** The cloud-based architecture enables Abaxx to scale resources dynamically as trading volumes grow. This eliminates the traditional constraints of hardware-based systems and allows for rapid introduction of new products and markets.
- **Reduced infrastructure and operations costs due to SaaS model:** By adopting Exberry's SaaS solution, Abaxx avoided the substantial capital expenditure typically associated with exchange technology. This transformed their cost structure from heavy upfront investment to a more manageable and scalable operational expense model.

Operational impact

The implementation has transformed how Abaxx operates. Enhanced automation and streamlined workflows have reduced manual intervention and operational risk. Market operations now benefit from real-time risk monitoring and pricing adjustments, strengthening both efficiency and market integrity.

Behind the scenes, the SaaS model has revolutionised ongoing operations. In the words of Magnus Almqvist, the CEO of Exberry: "The SaaS model and tight integration ease everything from your organisation and from our operations... it just means that the scale, the efficiency, the speed at which they act and react to anything that happens... for you, it is seamless."

Market Milestone

Abaxx represents the first new commodity futures clearinghouse focused on physically-deliverable commodities launched in a decade – a testament to both the vision of Abaxx and the enabling power of Exberry's technology.

Market impact

With Exberry powering its operations, Abaxx has achieved a remarkable milestone as the first commodity futures clearinghouse launched in a decade. The exchange now stands as an innovator in energy transition markets, delivering the price discovery and risk management infrastructure essential for these evolving sectors.

The launch has drawn a diverse ecosystem of participants. Clearing members StoneX, KGI Securities and ADM Investor Services provide full clearing and execution capabilities, while execution and broking services come from a roster of established firms including Mizuho, Marex, Eagle Commodities, Evolution Markets, and others across the trading landscape. For a full list of clearing and broker firms connected to Abaxx markets, click [HERE](#).



Client Testimonial

"Solving fundamental problems in today's global commodity and energy markets requires cloud-based solutions with precision at an expeditious pace; we found that in Exberry."

Dan McElduff, President, **Abaxx Exchange**

Future Roadmap

Scaling for new markets

With its core platform now operational, Abaxx is positioned for expansion into additional markets. Having successfully launched LNG, carbon, battery materials and gold contracts, Abaxx continues to explore opportunities for new product offerings.

Exberry's flexible platform architecture enables this expansion without requiring fundamental changes to the underlying technology. The scalable nature of the platform provides the foundation for continued innovation, ensuring that new capabilities can be deployed rapidly in response to market needs.

Ongoing innovation with Exberry

The Abaxx-Exberry partnership continues to evolve through continuous system enhancements delivered via the agile model. This collaboration ensures Abaxx stays at the cutting edge of exchange technology while maintaining the stability that regulated markets demand.

Beyond the current platform, Abaxx is exploring next-generation innovations in full digital title and smart commodity contracts. Though these capabilities fall outside current regulatory approvals, the modular, cloud-based architecture positions Abaxx to pioneer these innovations as market conditions and regulatory frameworks mature.

Looking Ahead

Exberry's role in shaping next-gen exchanges

The successful implementation at Abaxx demonstrates Exberry's position as a proven solution provider for modern, regulation-ready commodity markets. The partnership showcases the transformative power of SaaS and cloud-native technologies in the exchange space – reducing time-to-market, lowering infrastructure costs and enabling continuous innovation.

Exberry's approach represents a fundamental shift in how exchanges are built and operated. By embracing cloud technologies and agile methodologies, exchanges can now launch and evolve at a pace that was previously impossible with traditional on-premises infrastructure.

Key takeaways

Speed & agility

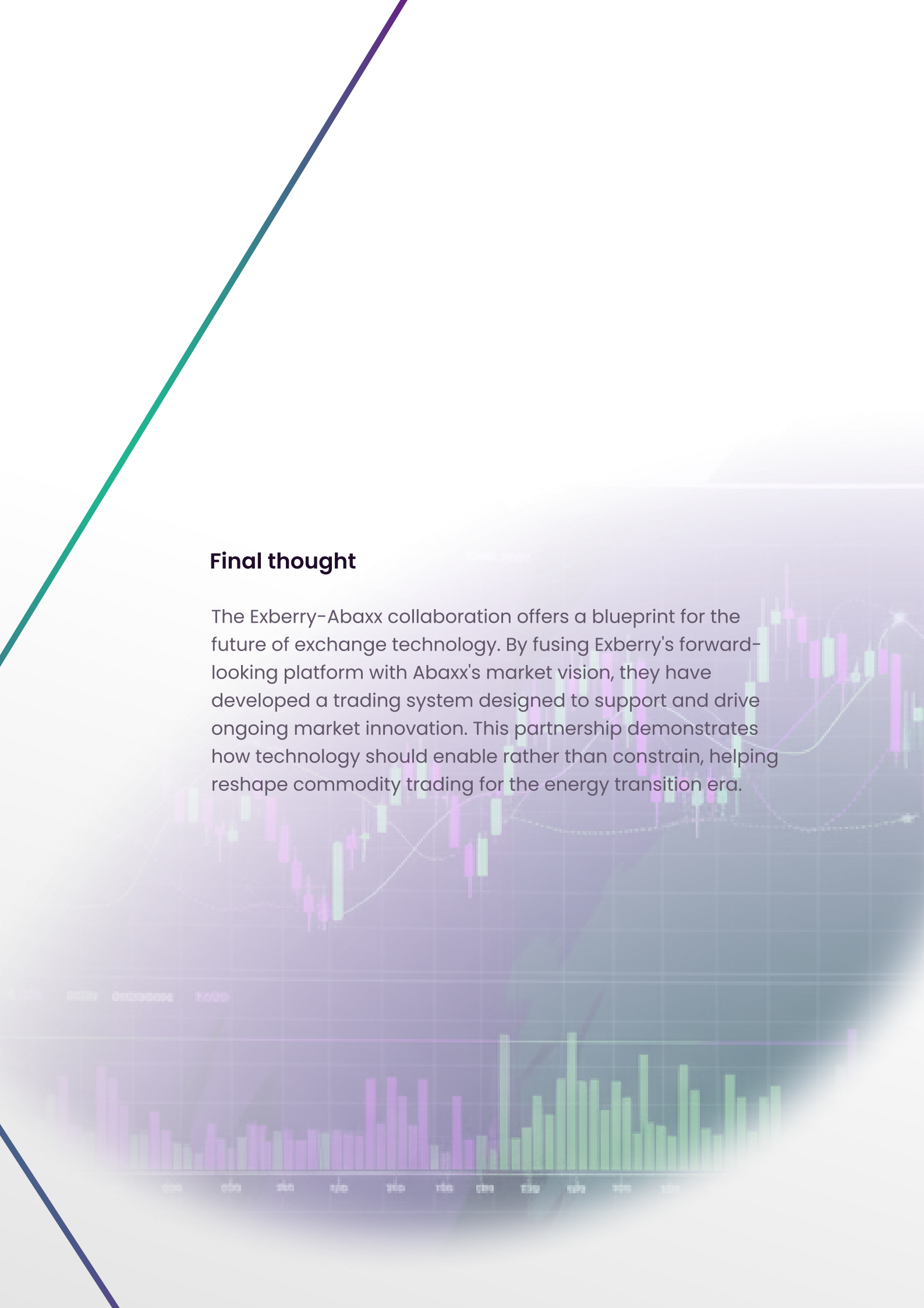
The Abaxx implementation demonstrated remarkable velocity, with a complete exchange platform deployed in just six months. This represents a step-change improvement over traditional exchange technology implementations.

Flexibility & scalability

The cloud-native architecture provides Abaxx with the foundation to adapt to market needs and expand into new asset classes without fundamental technology changes, enabling both responsiveness to current market conditions and capacity for future growth.

Regulatory-ready

Exberry's solution ensures compliance from the start, meeting the stringent requirements of the Monetary Authority of Singapore and positioning Abaxx for continued regulatory compliance as it grows.

The background of the page features a stylized world map in a light blue/purple hue. Overlaid on the map are various financial data visualizations, including a candlestick chart with green and red bars and a bar chart with green bars. A thick, diagonal line in shades of green and blue runs from the top left towards the bottom right, crossing the map. The overall aesthetic is modern and tech-oriented, with a focus on global finance and data.

Final thought

The Exberry–Abaxx collaboration offers a blueprint for the future of exchange technology. By fusing Exberry's forward-looking platform with Abaxx's market vision, they have developed a trading system designed to support and drive ongoing market innovation. This partnership demonstrates how technology should enable rather than constrain, helping reshape commodity trading for the energy transition era.

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About Exberry

Exberry accelerates financial trading exchanges' ability to launch and modernise markets with speed and confidence. Our exchange-grade platform delivers the performance and reliability required for traditional markets while providing the agility to capture new opportunities.

The platform enables exchanges to launch new markets in days through our cloud-agnostic SaaS solution, while maintaining zero-downtime implementation. Our API-first architecture ensures seamless integration with existing infrastructure, allowing for gradual modernisation while maintaining business continuity.

Exberry's asset-agnostic architecture supports any asset class, enabling customisation while maintaining exchange-grade performance. The platform can be deployed in any environment – cloud, on-premises, or hybrid – scaling from micro-markets to high-volume trading without infrastructure upgrades.

To find out more, please go to www.exberry.io, follow us on [X](#) or visit our [LinkedIn](#) page.

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