

Powering the future of energy trading: **The story of a next-gen power trading platform**

CASE STUDY



About Client

Leading power exchange in Asia



Industry

Energy and renewable



Service

Applications



Business **Need**

In the rapidly evolving energy landscape, the need for efficient power trading platforms have become critical. The client – India's leading power exchange, sought a powerful trading platform that could cover all aspects of their trading activities, including bid capture, price matching

algorithm, risk management, clearing and settlements, bank integration, and comprehensive reporting. However, they faced a significant challenge—the absence of an existing trading platform in the market that could meet their specific requirements.

Business Challenge

The absence of a suitable power trading platform posed several challenges for the client as well as the end customers who would participate and trade in the exchange. The legacy system had lots of manual paperwork, which was quite tedious as it required coordinating between multiple organizations. This resulted in lack of transparency and increased the length of overall clearing processes. Therefore, our client wanted a solution that could solve all these challenges and offer –

- A price-matching algorithm capable of handling complex matching across multiple products
- Platform that could be launched quickly, accommodate new product

additions seamlessly with logical variations

- Capability to handle peak trading loads
- Hassle-free clearing and settlement processes which include reconciling transactions, calculating obligations, and generating detailed reports for management information systems (MIS) and regulatory reporting
- Comprehensive reporting and administration capabilities that could provide detailed insights into trading activities, monitor performance, comply with norms, manage user accounts, system settings, and other operational aspects of trading





Business **Solution**

To address the challenges faced by our client, NSEIT started with an Application Portfolio Rationalization assessment, aimed at optimizing their enterprise applications and aligning them with their specific requirements. The objective was to design and implement a powerful trading platform that would not only ease participation and provide customer delight for trading on the exchange but also offer a seamless migration from a thick client-based solution to a web-based one.

The rationalization process involved a comprehensive evaluation of the existing

applications, systems, and infrastructure, taking into account factors such as functionality, business value, technical debt, maintenance costs, and usage patterns. The assessment enabled us to identify areas for improvement and design a powerful trading platform with the following key features:

- **Scalability and High Availability:** The platform is very well architected to ensure scalability and high availability, allowing clients to handle peak trading loads during business hours without compromising performance or user

experience. This ensures a seamless trading experience for the end customers.

- **Modularity and Configurability:** The platform is built with a modular and configurable architecture, allowing the power exchange to easily add new product segments within a short timeframe of 4-6 weeks. This gives our client a competitive advantage by enabling them to launch new swiftly offerings and capture market opportunities.
- **Speed and Accuracy of Price Matching:** The core logic for the price matching algorithm was developed in collaboration with the esteemed Technology Institute of India. This partnership ensured the implementation of a state-of-the-art price-matching algorithm that facilitated accurate and efficient matching across multiple products. It significantly enhanced the trading experience and enabling fair price discovery.
- **Interfacing and Integration Capability:** The platform provides seamless interfacing and integration capabilities, enabling efficient communication and data exchange with various stakeholders. This includes API-based integration with government dispatch centers, banks, and clients within a remarkably short span of 3-4 days. The streamlined integration process

enhances operational efficiency and reduces manual efforts.

- **Low Cost of Ownership and ESG Contribution:** The platform is designed with a focus on cost optimization, ensuring a low total cost of ownership for the client. Additionally, the platform supports trading of Renewable Energy Certificates (RECs) allowing organizations to purchase these certificates as carbon credits. The platform not only fulfilled business needs but also made significant contributions to environmental, social, and governance (ESG) factors.
- **Auditability and Compliance:** The platform offers robust auditability features, ensuring transparency and accountability in the trading process. The platform generated detailed reports for management information systems (MIS) and regulatory reporting, enabling the client to comply with the industry regulations and fulfill their reporting obligations.
- **Cloud-Ready Solution:** This platform is developed as a cloud-ready solution, and is currently hosted on Azure, providing the client with the flexibility to leverage cloud infrastructure and technologies. This unlocks seamless scalability, increased operational efficiency, and reduced infrastructure costs.

Technology Stack:

The platform was built using a robust technology stack comprising –





Benefits

The implementation of this power trading exchange solution brought about a revolutionary transformation in the industry. It empowered the client to capture approximately 60% of the market share across various traded products on the platform. With support for eight key products across 13 bidding regions on a pan-India

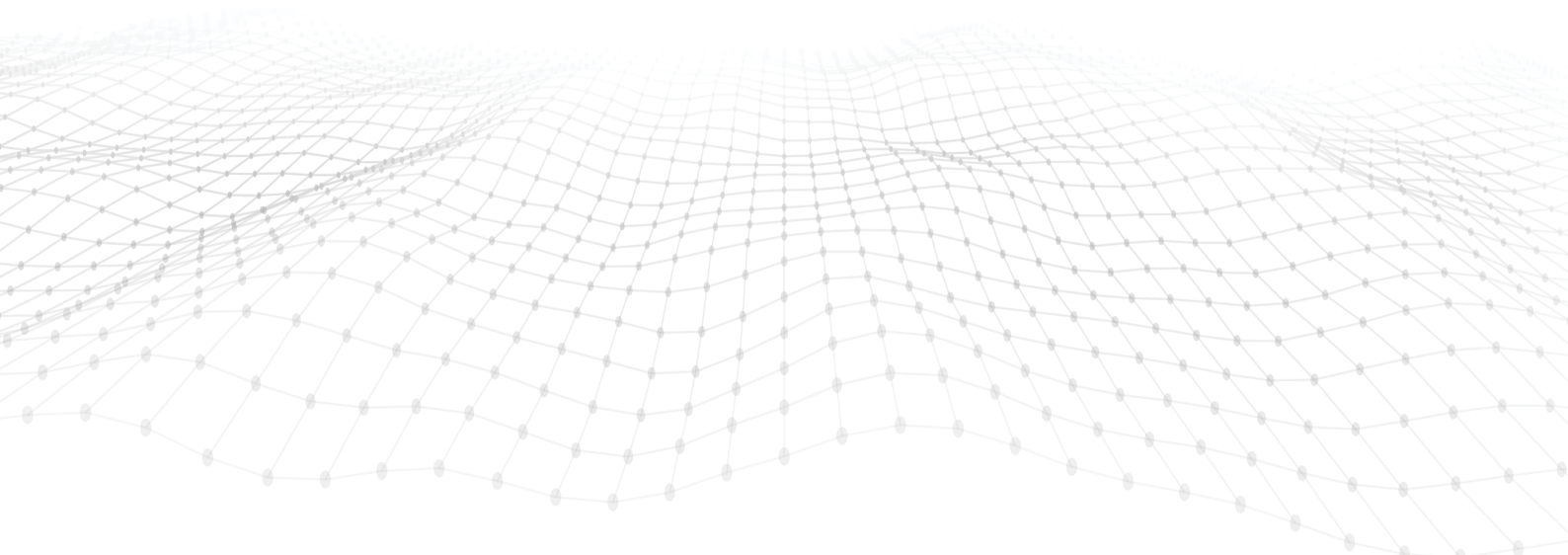
basis and over 4000 clients, the platform emerged as a game-changer. Additionally, the platform's modular design contributed to energy savings and environmental sustainability by automatically shutting down related modules when trading was closed, aligning with ESG principles.

- ▶ End-to-end trading solution
- ▶ Simultaneous power trading and transmission clearance
- ▶ Streamlined integration
- ▶ 24/7 availability
- ▶ Scalability for business growth
- ▶ Hassle-free migration from a thick client-based solution to a complete web-based solution

Why **NSEIT**?

NSEIT Limited is a digital native technology company that engineers world-class solutions to help our global customers accelerate their digital transformation journeys. Our key service pillars are Application Modernization, Business Transformation, Data Analytics, Infrastructure & Cloud Services, and

Cybersecurity, through which we create intuitive digital experiences and tangible business impact. For over two decades, our innate drive for excellence has made us the partner of choice for global organizations. At NSEIT, we fuel digital progress.



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