

ASX Modernizes the Securities Exchange



100%

Uptime of TIBCO solutions over 20+ years

100 M

Messages per day

1

Future-proof tech core



With ever-changing information and trillions of dollars at stake, financial securities exchanges are complex, high-stakes environments that require maximum security and availability for processing vast amounts of data every second.

Australia's financial markets depend on the Australian Securities Exchange (ASX), a market operator and payments system facilitator with the mission to provide secure, resilient, and high-volume transactions for buyers and sellers. Where exchanges like the New York Stock Exchange spread markets across five or more organizations and business models, ASX handles all markets under one roof (clearinghouse, derivatives, cash equities), making interoperability and reliability across systems critical for the full spectrum of its services.

Maintaining its industry leadership, and keeping its many financial systems under one roof was challenging. The company required modernized infrastructure and innovative new offerings that its legacy systems couldn't provide. According to Chief Information Officer Dan Chesterman, "We are replacing and modernizing every layer of technology, and we see that as fundamental to the way that we'll deliver services now and in the future."

Building a Modernized Global Financial Exchange: Project Hubble

To achieve the goal of running resilient business-critical services, ASX consolidated its data architecture and modernized its core systems. The company underwent end-to-end transformation using microservices, containers, and Apache Kafka messaging support from TIBCO. Its Project Hubble is creating a shared data processing foundation, one central platform with a robust and future-proof technology core.

ASX

Established in 1987, the Australian Securities Exchange (ASX) united six independent stock exchanges dating back to the early 1900s. Today, it is one of the world's top financial market exchanges with 150-year legacy and a market cap of AUD\$2 trillion.

Chesterman says, “We are in the midst of a quite significant renewal of our technology platforms. We’ve replaced a lot of underlying infrastructures, implemented a new secondary data center that we use for fast recovery, and implemented a new virtual platform.” The new implementations will keep the company at the forefront of the financial services industry for years to come.

While ASX has used TIBCO products for several years to integrate its systems, TIBCO’s visual analytics platform helped inform complex business decisions. For example, it launched its new DataSphere product that helps customers make more informed decisions.

DataSphere: Securities Data-as-a-Service

With its powerful new core data infrastructure, ASX examined how it could derive more value from the huge volumes of data flowing through its systems. [DataSphere](#), an innovative data-as-a-service offering brings together a community of data providers, experts, and insight seekers on a robust and open platform fueled by data science and visual analytics.

DataSphere will provide a new revenue source for ASX, a range of financial insight products that can be purchased on a web store. Customers can buy ASX data to see a company’s performance in the context of the entire market. In one secure platform, it combines unique datasets, powerful analytics tools, industry-leading data governance, and commercial opportunities. Users can gain immediate insights, customize their models, and commercialize their data through the ASX platform.

DataSphere has built-in measures to ensure that data is used as intended, which aligns with the company’s mission to provide superior ethical governance. ASX’s [2020 Annual Report](#) states “...managing and protecting our data, and that of our customers, is critical to maintaining trust and confidence in Australia’s financial markets and strengthening the resilience of our operations.”

Increasing Operating Resilience and Reliability

ASX has made significant improvements to its operational resilience via its Building Stronger Foundations program in recent years. The program has seen customer-facing incidents fall approximately 78% from 2016 levels, and outages across its five main market systems are at their lowest levels since 2006.

The market operator continues to progress its multi-year technology investment program, which will reduce the average age of its equity technology stack from 11 years in 2019 to four years by 2023.

Service Is Trending Up

Since the beginning of its partnership with TIBCO, in addition to stellar performance with no unscheduled downtime of TIBCO solutions for over two decades, ASX processes more than 100 million messages a day.

Chesterman says that the expectations for operational resilience are ever increasing. “The consequence of a failure is higher now, and regulations are more stringent, which I don’t think is inappropriate. Over the last three years, we’ve increased the number and the velocity of changes by about 30% per month, and at the same time, we’ve decreased the number of customer-impacting security and regulatory incidents by about 30%. While technology issues cannot be completely eliminated, ASX has done much in recent times to reduce the risk of their occurrence, and the company is committed to improving and enhancing its platforms and processes. We’re making constant improvements, and having fewer operational incidents that affect the customer.”

ASX sees the need for digitized services to change quickly and stay secure, and its applying technology in a way that achieves both those goals.

Intelligent Solutions to Build Tomorrow’s Economy

In an increasingly digital industry, modern infrastructure and new data revenue offerings have helped ASX achieve its goal of running important services faster and more securely. The company removes the friction in the exchange process, enabling commerce to run less expensively with less risk.

“We fundamentally believe that organizations can succeed in the new digitized economy by addressing the hard task of modernizing an infrastructure’s core to make it more flexible and resilient — which is central to future success,” says Chesterman.

ASX built a modern data infrastructure to meet its business design and profitability goals. It improved performance, stability, integrity, and resilience, leading in the region and infusing confidence into financial markets. And it was made possible by TIBCO.



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