

GIGASPACE FINANCIAL SERVICES

**Avanza Delivers Innovative Banking Services
with Millisecond Response
Growing Customer Base by 5X**

USE CASE: FINANCIAL SERVICES

The demand for speed, simplicity, personalization, and transparency is driving a new generation of financial technologies and services. The rise of the digital bank is clear, **with four in five customers preferring to manage their finances digitally rather than in person** (Forbes).

About Avanza

Avanza is a Swedish digital platform for savings and investments founded in 1999, revolutionizing the banking industry with a completely digital strategy. Avanza focuses on customer-centric innovation and new open banking services with innovative and agile technologies.

Avanza offers stock trading, funds, savings accounts, pensions, mortgages and open banking to over 1.7 million customers, with a share of the savings market of 7%. It leads in Stockholm NASDAQ stock market transactions, offering customers solutions a wide range of Swedish and international securities and savings accounts, with no fixed fees and very low brokerage fees. Avanza holds over 70bn SEK in total savings capital, and was named Bank of the Year 2018, 2019 and 2020 by Privata Affärer.



Winner of the Swedish Quality Index award for the most satisfied savings customers for **12 consecutive years**



1.7 M
CUSTOMERS



17 TB
OF DATA
IN-MEMORY



>280K
EQUITY
TRANSACTIONS
PER DAY



1,600
MICROSERVICES
RUNNING IN
6,700
INSTANCES/DAY



900+
APIS



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Business Objectives

With stiff competition, especially from fintechs, Avanza needs to be at the forefront of innovation to maintain its competitive edge and remain in the top spot by:



Delivering solutions with an optimal customer experience



Constantly offering new, innovative services



Continuously growing the number of customers and variety of services

Architectural Objectives

From the start, Avanza was digital-first. Their continued commercial growth increased loads from new customers' activity. In parallel, the bank kept introducing new services, all of which resulted in performance issues such as increased latency due to bottlenecks, database calls and queues. Therefore, Avanza looked for a new infrastructure solution to reduce their system complexity, improve efficiency and reduce latency. They chose GigaSpaces to replace their entire backend stack.

Avanza collects data from a multitude of complex sources, and must offer the most accurate information in a seamless user experience. The data is constantly updated. Spikes in usage occur each morning when trading opens, and also in reaction to global events, so the infrastructure must be agile and scalable to react to changing loads.

Results

"We can build really rich and smart customer experiences without worrying that the technology will stop us."

Joakim Sahlström, CTO, Avanza Bank

Innovation has always been at the forefront of Avanza's activities, for example, they implemented a microservices architecture on the GigaSpaces platform years before other European financial institutions. As they grew, the Avanza team were no longer satisfied with the performance of commercially available trading platforms. All transactions must be accurate, and occur with ultra-low latency, even during unexpected peaks which occur in response to world events. Therefore, they decided to build their own trading platform on top of the GigaSpaces infrastructure, comprising complex risk calculations and financial transfers.

The Avanza platform handles 50,000 responses/second to and from web apps, with 1-2 million calls/second during peak periods, such as when the markets open. The flexibility and fundamental scalability of the GigaSpaces platform enables the developers to easily promote and update services that had been sidelined, as business priorities evolve.



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GigaSpaces has enabled Avanza to significantly shorten development cycles and runtime:

- ✓ Before GigaSpaces: Abacus (SQL/Java app) took 18 months to develop; as the number of transactions grew, running time increased from 5-6 hours to **16-18 hours**
- ✓ After GigaSpaces: 3 developers created the new app in 3 months; runtime reduced to **10 minutes**

Benefits

By implementing GigaSpaces, Avanza has been able to:

- ✓ Offer a premium customer experience
- ✓ Scale their services as their customer base and offerings expand
- ✓ Provide ultra-low latency (views that render in less than 0.5 seconds), especially for stock market transactions where milliseconds can make the difference between profit or loss
- ✓ The GigaSpaces solution handles many technical and architectural issues, enabling Avanza's 250 developers to focus on building innovative products and services, instead of dealing with data integration and infrastructure concerns.

"GigaSpaces provided a fundamental building block that removes a lot of the scalability, latency and performance issues that we experienced. When you build on top of GigaSpaces you gain scalability everywhere."

Joakim Sahlström, CTO, Avanza Bank

About GigaSpaces

GigaSpaces is building on its in-memory computing and operational data store technologies to offer one of the market's first Digital Integration Hubs (DIH), an out-of-the-box solution that simplifies organizations' digital transformation, while drastically lowering legacy systems' TCO. Whether you need to accelerate one application with cache, or modernize your entire architecture with a Digital Integration Hub, the GigaSpaces in-memory data platform can future-proof your investment. Never before has it been this straightforward to accelerate API-powered digital applications to transform user engagement, legacy modernization, and 'Customer-360' software infrastructure projects.

Smart DIH is part of the GigaSpaces Smart suite of products, alongside the award-winning Smart Cache solution. GigaSpaces offices are located in the US, Europe and Israel with partners such as Capgemini and Cognizant around the globe; serving customers such as Morgan Stanley, Bank of America, CSX, Goldman Sachs, Societe Generale, Credit Agricole, American Airlines, Avanza Bank, Avaya, CLSA, Stellantis and UBS.

For more information visit www.gigaspaces.com.