



Success story

Scalable real-time event streaming platform for a global forwarder

The largest logistics company in Europe required a near real-time data platform to connect big data from many sources, with over one million daily updates. It had to display the current status of the freight and be accessible anytime. Our client needed a highly available and reliable cloud-based solution for all land, air and sea transport routes.

The plan was to collect, process, and present GPS signals from containers. Then, the customer wanted to connect and enhance this data set with the freight information relevant to each cargo. However, the project idea initially turned out to be quite complex.



The Challenge

The logistics company used supply chain software to collect and manage shipment data. The platform would have had to be extensively adapted to add more functions. This function expansion would be available to all software users and benefit our client's competitors. It would have prevented the competitive advantage that our client sought. After an unsuccessful attempt to build its solution platform, the logistics company turned to VirtusLab.



The solution

VirtusLab (VL) developed a cloud-based event streaming platform that processes events (data) from multiple sources. In addition, VL created a data inspection engine to automate further and track freight delivery progress against business rules. This event platform covers all the functions required by the client, scales linearly and provides resilience and enterprise-level reliability. In case of failure, VirtusLab developed a backup solution of the existing supply chain solution.

VirtusLab automated manual operations, such as:

- Generate push alerts about late shipments immediately instead of batch processing alerts.
- Create escalation procedures for late-arriving air cargo shipments.
- Create sea freight documents within the transport management system.
- Trigger the customs import procedure as soon as the required parameters are available.

On top of that, we enriched shipping data with the automatic calculation of CO2 footprint information and order data. Automated reports helped the company become a global leader in providing carbon intelligence data and freed sustainability management from creating time-consuming CO2 reports.

Our client and their customers see all data in one user interface that VL connected with the event streaming platform. While doing so, we introduced security standards for data transmission and created trust for a long-lasting partnership.



The results

With the use of the new cloud-based data platform, the logistics company benefited in several ways:

- Significant savings in annual operating costs.
- Competitive advantage over rival users of supply chain solutions.
- Unique customer experience with a 360° view of the consolidated freight data collected worldwide in real-time.
- The platform is highly scalable and resilient through the consistent use of the reactive programming model.
- Adding new functions is easy and quick to do.
- Dozens of virtual resources (RPAs) were decommissioned.
- Dozens of employees have been freed from repetitive work and are now turning to critical tasks instead.
- The solution generates automated CO2 footprint reports.



The tech stack

/ Infrastructure

- Microsoft Azure
- Kafka
- ElasticSearch
- Terraform
- CloudBees Jenkins

/ Languages

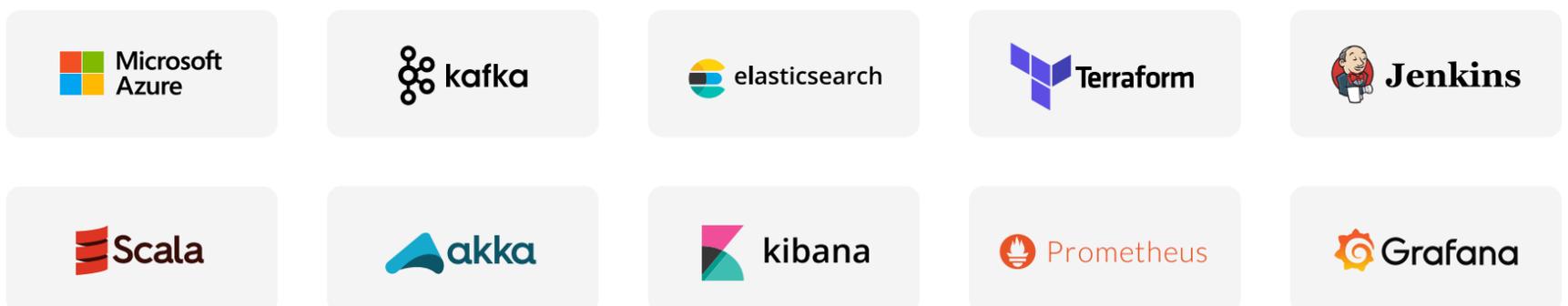
- Scala

/ Frameworks

- Lightbend Akka

/ Monitoring

- ElasticSearch & Kibana
- Prometheus
- Grafana



About VirtusLab

At VirtusLab, we aim to lead in software technology, working consistently to enhance efficiency. Our profound commitment to research and development and a dedicated focus on emerging trends and inspirations fuels an innovative culture. This ethos precisely guides advancing our cutting-edge solutions, inviting collaboration to expand the boundaries of software technology collectively. We welcome you to be a part of this transformative journey.

[Let's connect](#)

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