



Case Study

Trade fairs virtually re-imagined: inovex and echolot develop new customer channel



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The coronavirus pandemic has changed the world of work in many ways, and this includes trade fairs. The event halls where, in the past, contacts were established, products were launched, and contracts were initiated now stand empty. The echolot Group has come up with an unusual virtual trade fair solution, the VCON 2020, to close this business gap for Gebr. Heller Maschinenfabrik, an equipment manufacturer from Nürtingen in Germany. In inovex, echolot found a strong technology partner for the implementation of their concept.

The starting point

With the cancelation of all trade fairs in 2020, Heller lost an important channel through which to present new offerings to potential customers and to showcase them in a tangible way. Without further ado, the company decided to compensate for the shortfall by other means. “Heller’s logic was that ‘If the physical channels are blocked, we’ll just have to go digital,’” explains Helge Ulrich, Managing Director of the echolot Group.

A virtual trade fair in just three months

echolot developed a concept for a new, three-dimensional exhibition world for the equipment manufacturing company. Heller wanted visitors to be able to explore its offerings virtually in real time and to interact with other participants via chat and video conferencing. The company also requested that visitors be able to experience the fair together, so the solution displays the other

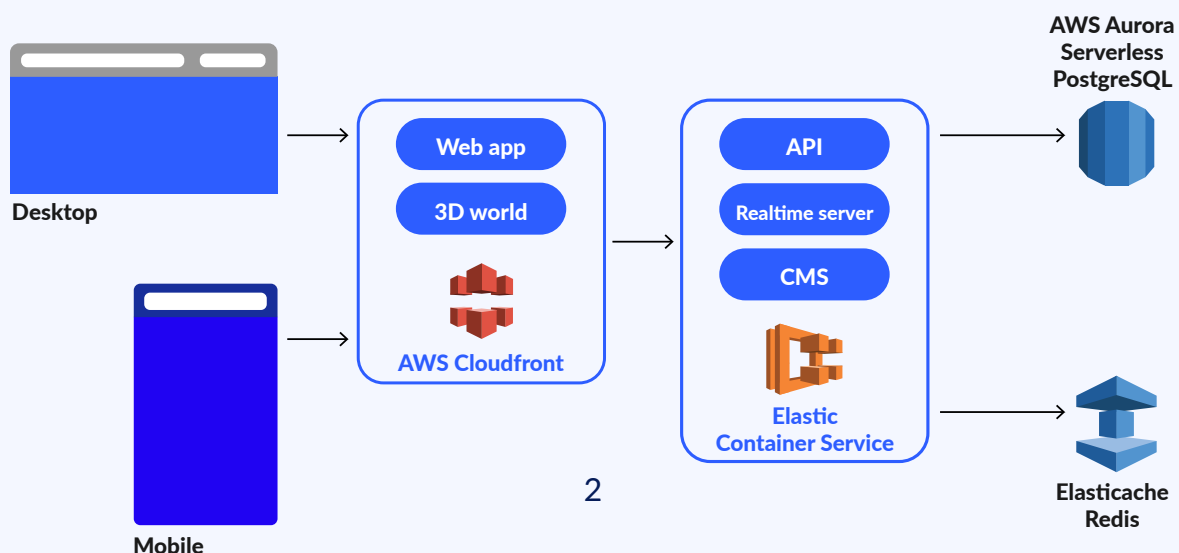
participants’ whereabouts in the virtual environment in real time. The echolot Group collaborated with inovex in order to implement this technological challenge.

To enable Heller to react to the new situation as quickly as possible, a functional solution had to be created within a short time. Within three months, a flexible, scalable infrastructure based on Amazon Web Services was designed and the corresponding back-end services and UI implemented.

Technological implementation

The basis for the backend is an event-based, real-time server developed in Go, which enables individual visitors to the virtual trade fair to interact in real time. Here, especially, delay-free operation is crucial, so the real-time server and API have been optimised for low latency, while a Redis cluster based on ElastiCache is used at time-critical points. This has enabled event communication to be realised with a latency of well below one millisecond. The data is stored in a PostgreSQL DB cluster in Amazon Aurora Serverless, an environment which automatically scales with load spikes and can therefore handle peak traffic.

The microservices architecture runs fully dockerised in AWS’s Elastic Container Service, and an upstream load balancer ensures scalability and reliability. In order to deploy features quickly, inovex developed a fully automated test and



build pipeline based on Gitlab CI, while a parallel staging environment provides support for testing new functions.

The frontend was implemented responsively using React and MobX for state management and RxJS to process the huge volume of real-time events in a structured manner.

The virtual trade fair can be flexibly populated with content at any time via a central content management system, which takes the form of a headless CMS based on Strapi. User management functions tailored to trade fair requirements also enable visitors to log in via XING and LinkedIn and provide support for administrative activities, such as sending newsletters to trade fair visitors.

Conclusion

The fair was held from 10th to 12th November 2020. Due to the overwhelmingly positive response, Heller is now using the virtual trade fair solution for additional events and special sales. The solution offers additional added value beyond the pandemic situation, allowing product presentations to be set up quickly and easily, for example, and travel costs to be saved. It has become a new way for Heller to interact with its customers.

About inovex

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Over 400 IT experts provide comprehensive support to companies in making their core business digitised and agile and in the implementation of new digital use cases.

The solutions we offer include Application Development (Web Platforms, Mobile Apps, Smart Devices and Robotics – from UI/UX design to Backend Services), Data Management and Analytics (Business Intelligence, Big Data, Searches, Data Science and Deep Learning, Machine Perception and Artificial Intelligence) and the development of scalable IT infrastructures (IT Engineering, Cloud Services), within which the digital solutions are operated in DevOps mode. We modernise existing solutions (Replatforming), strengthen systems against external attacks (Security) and share our knowledge through Training and Coaching (inovex Academy).

inovex has locations in Karlsruhe, Pforzheim, Stuttgart, Munich, Cologne and Hamburg and is involved in projects throughout Germany.



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