

Improved cost-effectiveness and elevated user experience for a leading supplier of mechanical parts



About the Client

Established in 2013, is a leading supplier of custom mechanical parts

It enables entrepreneurs to easily submit their custom parts requirements—like specification files or 3D designs—through their online platform

It offers clients a diverse range of usage, shipping, and payment options to enhance convenience and streamline operations

It is widely recognized as the **Airbnb of the manufacturing industry**

Its analyzes its database and delivers a quote based on the client company's algorithm, considering factors like the amount of material and time required

It capitalizes on the volume of orders throughout its network and allows customers to order parts for machines at prices significantly lower than those from direct machine operators



Business Needs

Optimize the scheduling of work orders for manufacturing partners (MPs) by choosing between the 'Push' and the 'Pull' methods:

- The 'Push' method involves sending work orders based on demand planning, while the 'Pull' method allows MPs to access work according to their capacity

To optimize the efficiency and responsiveness of the process by balancing anticipated demands with the actual abilities of the partners

Solutions

- Adopted an event-driven architecture with AWS Lambda to facilitate real-time updates of data across the system
- Deployed dedicated Lambda functions for user authentication, connection management, message broadcasting, and dynamic event handling, along with the architecture to ensure efficient scaling and rapid response times
- Enhanced the system to align job status across system, preventing multiple acceptances of the same job



Technology Stack

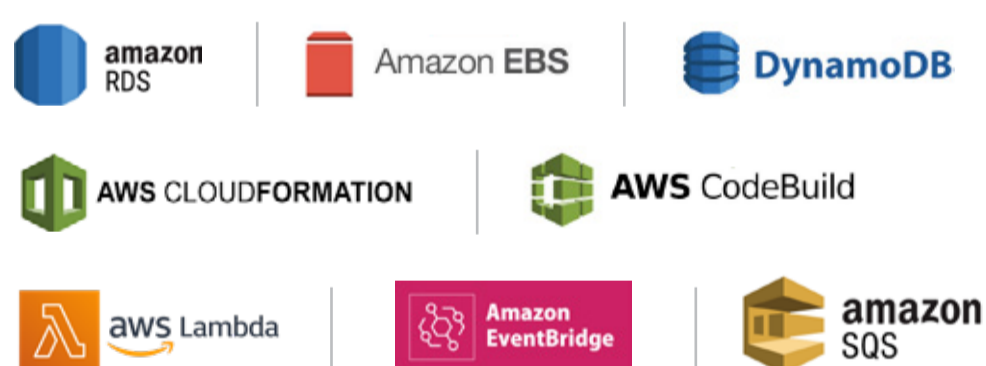
Development



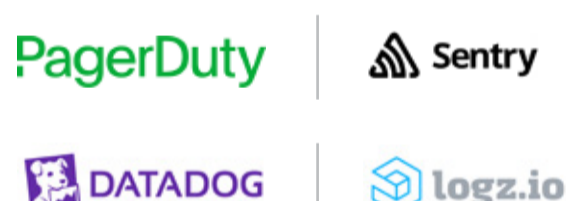
Database



AWS services



Others



Business Impact

- Enhanced user engagement and experience** within the application
- Improved job availability** for MPs by granting access to a broad range of jobs and addressing known production capacity gaps
- Minimized the likelihood of missed opportunities** by facilitating dedicated time to review job offerings
- Boosted the client's profit margins by 15%** by refining the payout calculation to improve transaction margins
- Minimized the manual efforts** required to schedule jobs
- Established strong partnerships** with manufacturing partners



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