

Automating Document Workflows for a Car Rental Provider

**100**

body shops

**15**

electric cars

**2**

development months

The Customer

Based in Norway, the customer is a provider of car rental services. Focused on environmental sustainability, the organization rents electric cars of new generation only (mostly Tesla). Founded in 2010, the customer partners with insurance companies and body shops across the country.

The Need

When the customer turned to Altoros, the document workflows (placing orders, logging incidents, issuing invoices, generating reports, etc.) were carried out in Microsoft Excel manually.

Cooperating with Altoros, the company wanted to automate document management across all the parties involved—a car rental company, insurance firms, and around 100 body shops. As the customer aspired to establish new partnerships, a minimum viable product had to be delivered within tight deadlines.

The Challenges

Under the project, the team at Altoros had to address the following issues:

- As the system was to process large amounts of data, it was important to ensure scalability;
- Since the solution was to store sensitive financial and insurance data, sufficient security had to be provided.

The Solution

Engineers at Altoros delivered a web application that automates document workflows across the car rental, insurance firms, and body shops. The system allows for creating contracts, logging incidents, issuing invoices, generating reports, etc.

With a microservices-based architecture following the [12-factor app principles](#), our developers ensured the solution's scalability.

By implementing role-based access control, the team at Altoros provided a sufficient level of security. On top of that, our engineers separated the storage of personal user data (Azure Active Directory B2C) from insurance and financial data (Cosmos DB).

To facilitate authentication to the system for non-registered users (car renters) in a secure manner, developers at Altoros enabled them to access data about their order via unique and dynamic (can be used only once) links sent by SMS and e-mail.

Our team utilized Microsoft Azure Functions to build a RESTful API responsible for integrations with external services. These integrations included Twilio for enabling SMS notifications, SendGrid for sending e-mails, Visma for issuing invoices, QuickPay and Stripe for charging payments.

The Outcome

Collaborating with Altoros, the customer developed a system that automates document workflows across the car rental, insurance firms, and 100 body shops in a secure manner. A microservices-based architecture ensures scalability, as well as promotes ease of maintenance and functionality extensibility. Thanks to the minimum viable product being delivered in just two months, the company was able to pitch its services and establish a new partnership with one of the major insurance providers in Norway.

Brief results of the collaboration

- The customer automated document workflows across its partner network—insurance companies and around 100 body shops—in a secure manner.
- With the microservices-based architecture, the solution ensures scalability, as well as ease of maintenance and functionality extensibility.
- Thanks to the minimum viable product being delivered in just two months, the company was able to establish a new partnership with one of the major insurance providers in Norway.

Technology stack

Platform	Microsoft Azure Cloud
Programming languages	C#, TypeScript
Frameworks and tools	.NET.Core, Microsoft Azure Functions, Azure Active Directory B2C, Angular
Databases	Azure Cosmos DB, Azure Blob Storage