Case Study

AltexSoft & Issta:

Optimizing Flight Inventory Management

.NET Core, Docker, OpenAPI Specification (OAS), Swagger, Microsoft Azure, Azure Kubernetes Service
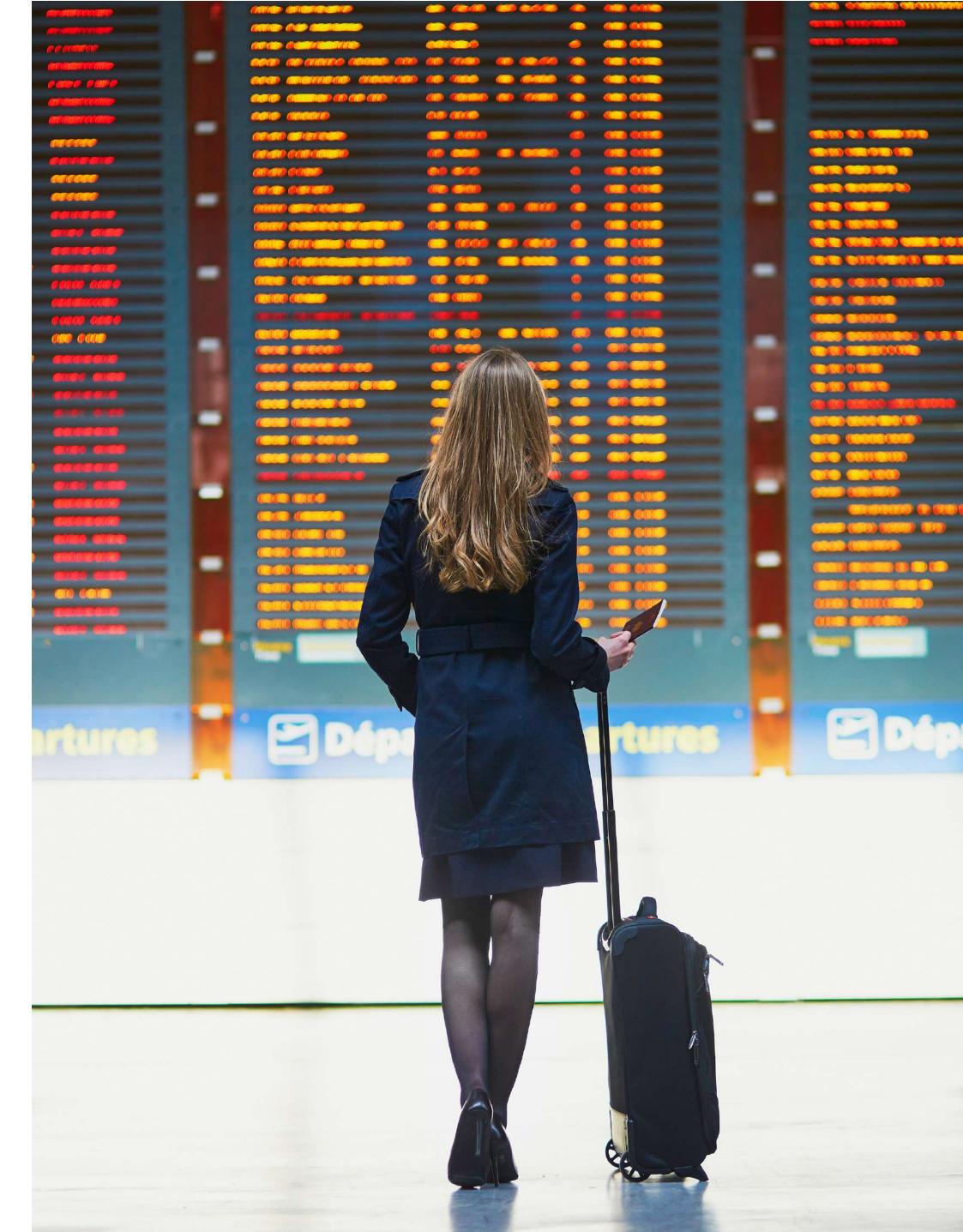
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Background

Issta is an Israeli online travel agency that offers a variety of services to both B2B and B2C companies. It has a large number of subdivisions argeting different audiences and supporting various business models, both online and offline. Each of the branches had its pool of suppliers and systems where they source inventory.

The client reached out to AltexSoft to create a single source of truth for all flight inventory that would effectively integrate different providers and internal platforms.

Challenges

Multiple business divisions each having its own suppliers led Issta to high integration costs, poor business scalability, and operational overhead. Every inventory update had to be implemented separately across several business branches, which caused errors and revenue management inconsistencies. Our main goal was to address this challenge and enable a seamless booking flow. Within the scope of the project the engineering team solved the following problems:

1.

Create a centralized inventory hub

2.

Modernize search, booking, and ticketing flow

3.

Connect to multiple suppliers

4.

Integrate the new functionality into the existing system

Value delivered

1. Built a centralized inventory hub

The AltexSoft team created a centralized inventory hub for managing flight content from different suppliers. To enable access to all information from a single place, we developed a unified search and booking API. It handles communications with all endpoints and brings data from different sources into a standard, digestible format. This not only enhanced the quality of information but also reduced integration pains for Issta B2B partners.

2. Created a new backend to facilitate flight booking

The client's platform was built on legacy technologies which hampered search, booking, and ticketing processes. Our team created a new backend on **.NET** Core to ensure that operations are performed in a logical order. Though a search and booking flow varies from supplier to supplier, we standardized it as much as possible enhancing flight shopping across multiple channels. This reduced technical support costs and increased search speed **by 8 seconds**.

3. Expanded content variety

Our team expanded the flight geography and the variety of options available via Issta, connecting the inventory hub to multiple suppliers — namely, Amadeus, Travelport, Travelfusion, Bravofly, and Alp (a local distribution system.)

4. Ensured smooth integration and high quality of code

To integrate new functionality with the Issta platform, we opted for microservices architecture and built the inventory hub infrastructure on **Azure Kubernetes Service.** Before deployment, our team covered 95 percent of the code with unit testing to satisfy quality standards set by the client.

Approach and technical info

The total scope of the project reached 7 man-years. The project, ongoing for two years, continues. Four professionals are involved from our side: 2 backend engineers, a principal developer, and a solution architect.

The technology stack included **.NET Core** (for backend), **Docker, OpenAPI Specification (OAS), Swagger** (for API documentation), **Microsoft Azure, Azure Kubernetes Service** (for microservices).

AltexSoft & Issta

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