

## CASE STUDY

# INAWISDOM DELIVER LIVE WORKLOADS IN JUST 8 WEEKS FOR ARAMEX, USING SERVERLESS AND DEVOPS

# INAWISDOM



## Our Customer

# aramex

## Strategy

Aramex is a logistics company located in the Middle East that handle millions of shipments per year. Aramex has always embraced the latest technology at the heart of its business and is currently undertaking a multi-year Digital Transformation journey to the public cloud. For Aramex, their Digital Transformation journey comprises of the following key elements:

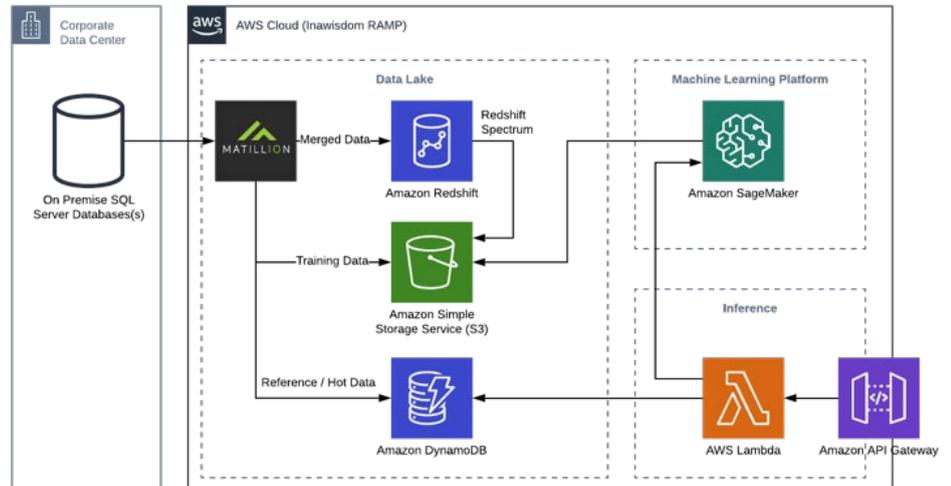
- **Agility** - the ability to react to a changing market by migration of legacy solutions into Cloud Native solutions that use Microservices.
- **Control** - remove the limitations they have faced with their on-premise workloads and the breaking up a monolithic relational database that is holding them back.
- **Innovation** – improving their user experience and business decision making processes by embedding machine learning.
- **Business Intelligence** - powered by a Data Lake that comprises of data from a number of sources from all aspects of their operations.

## The challenge

Prior to engaging Inawisdom, Aramex had struggled for 5 years to make their Digital Transformation happen. With Inawisdom's help in building workloads on AWS, along with advice and support, within 9 months Aramex successfully deployed 5 live workloads, with the initial workload live in just 8 weeks. Some of the key challenges Aramex experienced included:

- **Impaired innovation:** Due to the constraints Aramex data centres imposed on their business, Aramex could not easily experiment with different approaches, evaluate them or evolve the architectures underneath to adapt to changing needs.
- **Data Access:** Aramex has a number of relational OLTP databases at the heart of their business which are hosted on a series of 'on premise' Microsoft SQL Servers. Using these databases for business information, data insights or any other purpose was problematic as any additional load on the databases caused a degraded service to their operations business.

- **Model training:** Aramex's data centres were not built for scaling up application workloads as their business needs scale/change with seasonal fluctuations in business demand. In addition, Aramex could not exploit GPU accelerated processing or batch processing one off workloads using a fleet of servers.



## Solution

Aramex achieved a successful outcome utilising the latest DevOps tools from AWS and Inawisdom's RAMP product to provide a robust data platform on AWS. DevOps tools and processes/techniques were used to accelerate Aramex's Digital Transformation in the following ways:

- **Serverless solutions:** Creation of cloud native, highly performant and cost-efficient solutions using serverless technologies, including Lambda, API Gateway, SNS, and StepFunctions.
- **Observability:** Detailed picture of production workloads, including proactive alarms and dashboards to spot issues before they become critical using AWS CloudWatch. The use of AWS X-Ray to investigate the interactions between components and maintain responsetimes.
- **Deployment Pipelines:** Automation of routine deployments, including; data pipeline, AWS CodePipeline, Glue, StepFunctions, and Lambda.
- **Infrastructure as Code:** Controlled deployments, consistency between environments, and change management across multiple accounts. In addition, Serverless Microservices were deployed using AWS SAM.
- **Managed Services & Containerisation:** Utilising full managed services including Amazon SageMaker, Fargate and Glue provided Aramex and Inawisdom with the ability to focus on business logic and data science, reducing the time to market and simplifying operations.

### Results

In addition to deploying 5 production workloads inside 9 months, with the initial workload live in just 8 weeks, Aramex has seen the following additional results:

- **Rapid Deployments:** Using DevOps and Infrastructure as Code Aramex has completed over 500 development deployments to over 60 components and promoted over 150 deployments into production.
- **Highly Elastic and Performant Solutions:** Application workloads that perform over 14 million calculations per month in real-time, averaging 600 requests per minute, with daily raises to 800 request per minute, and seasonal peaks of 1500 requests per minute. Achieving response times of 135 milliseconds at 90th percentile, saving \$1000 a month with auto scaling.
- **Increased Innovation:** Inawisdom and Aramex identified an additional 6 workloads as part of a longer-term commitment. Examples of these workloads are an innovative workload to aid Aramex reaching its sustainability targets and another example is moving their core profiling workload to real-time data streaming and evaluating a set of business rules on over 3000 events per second.
- **A Vast Data Lake:** A data pipeline that ingests 1.5 million rows of customer data into Aramex's Data Lake every 15 minutes. Storing over 7.2 TB of data, comprising of 3 months in hot storage and 7.5 years queryable from long term storage (some tables back to 2010).
- **Freedom of choice:** Inawisdom has helped Aramex select the most appropriate data storage and technology for their workloads, using Object Storage in S3, Relational Databases in RDS, Data Warehousing in Redshift and Non-SQL persistence using DynamoDB.



The results achieved by Aramex through engaging with Inawisdom and AWS have helped them move forward on their Digital Transformation journey and are driving improvements across the business.

### About Inawisdom

Inawisdom is an AI specialist and AWS Machine Learning Competency Partner. We enable customers to rapidly discover business differentiation from their data assets.



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