indium
Make Technology Work
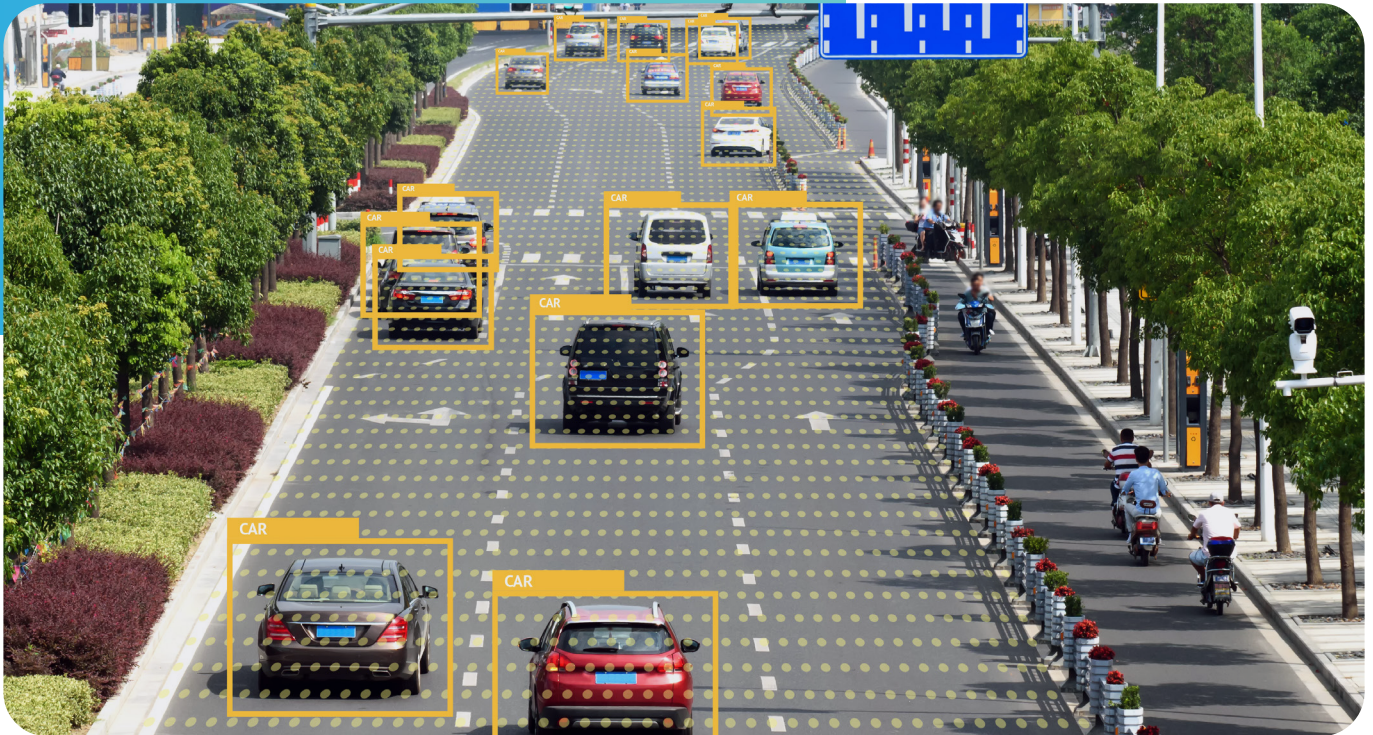

Global ride-hailing giant enhances safety and meets evolving regulatory mandates with integrated insights

Technology Stack

Advologix, Origami Risk, Sirius, UTask, Flat Files (Google Drive/Box), APIs, HDFS, HIVE, Python, PySpark, Kafka, Presto, AWS S3, Airflow, Git-o-Lite

Team Size

1 Lead Data Engineer, 2 Data Engineers, 1 Data Visualization Engineer

Delivery model

Offshore

Project Duration

6 months (Ongoing)

CHALLENGE:

The global ride-hailing market is expected to grow to $106.19 billion in 2026, at a CAGR of 14.8% . This market consists of revenue generated from ride-hailing transportation services offered on-demand by connecting passengers with vehicle owners through web or smartphone app. The growth is primarily driven by the lower rate of car ownership among millennials combined with the convenience it offers to book and track journey on vehicles that offers personal transport experience to public between locations of their choice.

To ensure uninterrupted service, ride-hailing players must follow evolving compliance mandate from several state and central regulatory bodies. These involve driver-related regulations such as background checks, driver license, external vehicle displays etc., and company related regulations that mandate firms to share trip and driver data with the city. As geo-specific regulations on safety (passenger, driver, and vehicle), pollution, pricing models, business model etc., continue to evolve; ride-hailing companies must address the compliance burden to enhance safety, avoid hefty fines, and negative press coverage globally.

> On average, U.S. ride-hailing trip results in 69% more pollution than the transportation choices it displaces based on federal vehicle efficiency statistics
>
> - Union of Concerned Scientist report, Feb 2020

The Client is a top ride-hailing player with operations around the globe. To better adhere with the evolving regulations and minimize losses, the client aimed to achieve the below objectives.

- **Accurate Loss Run Claims** – Enrich customer profile with data from new FinTech Partners before making it available for downstream credit health check ML model processing. This would help build holistic profiles of a larger group of population with additional parameters that eases underwriting.
- **Full and Timely Safety Audits** – Retrieve incident management portal tickets – safety (passenger, driver, vehicle) – and legal data and classify them before assigning it to Audit team on a timely basis. Build Dashboard on this data for consumption by the Safety and Product Analytics teams
- **Audit platform migration** – To gain integrated insights from the internal systems, migrate to a new auditing platform

The client was keen to partner with a digital engineering services firm with strong capabilities across Cloud, Big Data Analytics and AI/ML. Post analysis, the client deputed Indium Software to achieve the abovementioned objectives and modernize the homegrown data analytics platform to take advantage of the scalability, cost efficiency and innovative cloud-native features offered by AWS.

SOLUTION:

Post requirements gathering, Indium had a good handle of the business objectives and how it aligns to the desired technical solutions. It was jointly decided that Indium starts with the development of automated data pipelines for the loss run claims, before moving to other solutions. Given below are key highlights of the solutions designed and delivered.

Loss Run Claims

- Claims data from region-specific insurance providers were retrieved from Google drive / Box and loaded into Hive data store using a PySpark data ingestion pipelines.

- This raw data is processed, validated, and loaded back into Hive and then pushed into AWS S3.

- The processed data is made available for analysis through Presto – interactive querying tool – for Actuaries and Claims Analytics team.

- About 30+ Python & PySpark pipelines were built which were orchestrated using Airflow. Code was maintained in Git-o-lite.

Loss Run Claims

- The migration from Sirius to UTask involved significant changes to data model, migration of data pipelines and ticket backlogs.

- Indium updated the data model, migrated all data pipelines and then moved 70k+ ticket backlog within 6 short months.

BENEFITS:

- **Performant Data Pipelines** – Scalable and reliable PySpark data pipelines ensured that time-to-insight is reduced significantly.

- **Integrated Insights** – Migrating to a new audit platform and feeding that with data from incident management and legal platforms powered integrated insights, previously not possible.

- **Reduced Compliance Burden** – The automated data retrieval and processing solution, and purpose-built dashboards resulted in timely availability of data for Audit, Safety and Claims Analytics teams.

Legal & Safety Analytics

- Data from Legal (Advologix) and Incident Management platforms (Origami & Bliss) was retrieved automatically and loaded into HDFS using PySpark data pipelines.

- This raw incident data (sexual assault, accident etc.) is processed and loaded into Hive and then fed into UTask via API, which is then classified and assigned to Audit teams.

- 120+ PySpark data pipelines were built and orchestrated using Airflow. 10+ Safety & Product Analytics dashboard were built.

- 10+ dashboards were built for the safety & product analytics teams.

"

Overall Indium is a very strong development partner for us. They provide cost-effective resources across a number of skills and capabilities (full-stack, low code, analytics, cloud, etc.) in either a project-based or staff augmentation model. We have used Indium on 4-5 different projects with total Indium resources totalling 50+

- Sr. Director,
Architecture & Engineering,
Next Gen Software & Solutions
Top U.S Management Consulting Firm

ABOUT INDIUM

Indium Software is a leading provider of Digital Engineering solutions with deep expertise in Application Engineering, Data and Analytics, Cloud Engineering, DevOps, Digital Assurance and Gaming.

Over the past decade, Indium has built strong relationships with over 100 clients spanning ISVs, Global 2000 as well as born-digital companies across North America, India, Europe and the Asia-Pacific region, and with ecosystem partners such as AWS, Mendix, Striim, Denodo and Claris.

indium
Make Technology Work

USA	INDIA	UK	SINGAPORE
Cupertino | Princeton	Chennai | Bengaluru | Mumbai	London	Singapore
Toll-free: +1-888-207-5969	Toll-free: 1800-123-1191	Ph: +44 1420300014	Ph: +65 6812 7888

www.indiumsoftware.com

For Sales Inquiries
sales@indiumsoftware.com

For General Inquiries
info@indiumsoftware.com