Connecting a Global Fleet:
Avis Budget Group Optimizes Vehicle Rental Services Using Real-Time Data

“Informatica lets us use real-time data to optimize fleet management and telematics so that we can save money and drive our bottom line.”

Christopher Cerruto
VP of Global Enterprise Architecture and Analytics
Avis Budget Group

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<th>Goals</th>
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<td>Connect a massive fleet of 650,000 vehicles in real time and with a complete global view to enhance efficiency, reduce costs, and drive revenue</td>
<td>Deploy Informatica solutions on AWS to operationalize data and perform real-time analytics as part of a next-generation platform</td>
<td>Supports global vehicle analytics with an end-to-end data pipeline, giving fleet managers faster access to track vehicles in real time</td>
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<td>Reduce business risk by profiling and governing telematics data from vehicle GPS and navigation systems and uncovering data quality issues early</td>
<td>Leverage Informatica Data Engineering Integration to enable faster, flexible, and repeatable big data ingestion and integration</td>
<td>Mitigates risk by improving data quality and governance, helping to ensure that fleet data is complete and in the right format</td>
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<td>Document core assets such as fleet and telematics data while capturing business context from subject matter experts</td>
<td>Organize fleet and telematics data using Informatica Enterprise Data Catalog to provide visibility into data location, lineage, and business context</td>
<td>Increases productivity by enabling business users to search for, locate, and understand data assets on their own, with a line of sight into data lineage</td>
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Informatica Success Story: Avis Budget Group

Avis Budget Group is a leading general-use vehicle rental company, operating some of the most recognized brands in the industry, including: Avis, Budget, and Zipcar. The company and the industry in which it operates are changing quickly as new competitors emerge, challenging Avis Budget Group to innovate and offer customers new experiences and digital services.

Reinventing vehicle rental with infotainment and virtual local guides, digitizing the business with alerts and predictive maintenance, and developing new service models that include fleet tracking and analytics are just a few elements of Avis Budget Group’s approach to differentiation. Achieving these goals means leveraging real-time data from and about its diverse fleet of 650,000 vehicles, including telematics data from GPS and navigation systems, information from Internet of Things (IoT)-enabled sensors, and ever-advancing technology from vehicle original equipment manufacturers (OEMs).

“Understanding every vehicle globally is core to what we do and to the concept of a connected fleet,” says Christopher Cerruto, VP of Global Enterprise Architecture and Analytics at Avis Budget Group. “We want to know the attributes of every vehicle in real time, whether it’s mileage, tire pressure, or GPS coordinates. Then we can make better fleet management decisions and even send signals back to the car to lock, unlock, or immobilize. To make this connected future a reality, we set out to build a next-generation platform and enterprise data hub, knowing that Informatica could help.”

Bringing 70 years of legacy systems together

In addition to forming a basis for enhanced services, analyzing fleet data in real time brings a host of management benefits that can reduce costs and enhance the bottom line. For example, the Avis Budget Rental division can consider mileage optimization when deciding which vehicle to rent to a customer, better understand which vehicles are at risk for mechanical or electrical problems, and optimize timing for vehicle resale.

Having been in business for more than 70 years, its infrastructure was anchored to legacy systems, making data management difficult. Historically, Avis Budget Group operated as two separate companies, North America and International, which led to two massive data silos with no ability to get a real-time, enterprise view of fleet data. The organization had a breadth and depth of big data, which it needed to manage, ingest, and normalize at a rapid pace of change. With limited event handling and publishing and no real-time operational analytics, Avis Budget Group experienced performance and scalability challenges.

In addition to pulling in data from various enterprise systems, Avis Budget Group needed to profile and govern telematics data to uncover any data quality issues that might introduce business risk. It also wanted to document vehicle attributes and telematics data in an enterprise data catalog where it could provide business context and capture “tribal knowledge” from subject matter experts. Finally, it wanted to speed time to market for advanced analytics by giving end users simple tools to prepare data from the catalog for self-service analytics.
A better model for fleet management

Avis Budget Group decided to turn its data into a clean and usable data lake to pilot its connected fleet. The company built a cloud-based architecture that combines solutions from Informatica and Amazon Web Services to ingest, catalog, operationalize, and perform real-time analytics on connected car data as part of a next-generation platform.

“Informatica has a reputation for being best-in-class when it comes to data management, and they’ve done a great job evolving their products for cloud,” says Cerruto. “We saw lots of opportunities to plug Informatica tools into our AWS infrastructure to solve various problems, but we weren’t exactly sure how it was all going to work. So, we gave Informatica a few of our central use cases, and within six weeks they presented a live demo with our data in our environment showing us exactly how the software would meet our business needs. Informatica turned a problem into a solution in a very short period of time.”

Real-time data from vehicles and source systems such as Oracle, IBM IMS, and IBM DB2 databases now streams into Informatica Data Engineering Integration, enabling fast, flexible, and repeatable big data ingestion and integration. Informatica Data Engineering Quality automatically enforces predefined data quality rules, while Informatica Axon Data Governance automates data governance, helping to standardize processes and formalize data stewardship roles.

Fleet and telematics data is then organized and stored using Informatica Enterprise Data Catalog to provide end users with visibility into data location, lineage, and business context. Informatica Enterprise Data Preparation provides simple self-service access with visualizations, allowing business users to prepare cataloged data for analysis via self-service. Analysts then run machine learning models against the data using AWS SageMaker for real-time insights.

“Making sense of telematics data isn’t as simple as just dropping it in a database,” says Cerruto. “As data comes in from connected cars, Informatica allows us to profile, normalize, and catalog it so that a business analyst can find the information they need when they need it and take action.”

Christopher Cerruto
VP of Global Enterprise Architecture and Analytics, Avis Budget Group

On the road to advanced vehicle analytics

With its new cloud-based data and analytics architecture, Avis Budget Group is leading the rental industry in global vehicle analytics with an end-to-end data pipeline, giving fleet managers faster access to the data they need to maximize fleet utilization.

Cerruto explains, “If a customer arrives at the airport and we have two cars of the same make, model, and year in the lot, but one has higher mileage than the other and we know that customer is a high-mileage driver, it makes sense for us to provide a car with lower mileage. Then, when that the car is returned, we have balanced those miles across the vehicles. Informatica lets us use real-time data to optimize fleet management and telematics to help us save money and drive our bottom line.”

As the industry continues to change and vehicle manufacturers release new technologies, Avis Budget Group will leverage dynamic mappings in Informatica to quickly adjust data integrations, accelerating time
Inside The Solution:

• Informatica Axon Data Governance
• Informatica Data Engineering Integration
• Informatica Data Engineering Quality
• Informatica Enterprise Data Catalog
• Informatica Enterprise Data Preparation

“We envision a world where our fleet is completely connected, integrated, and on-demand. With Informatica and AWS, we’re leading the way in terms of how we can use data to drive success for the company and respond quickly as demands change.”

Christopher Cerruto
VP of Global Enterprise Architecture and Analytics, Avis Budget Group

Digital transformation is changing our world. As the leader in enterprise cloud data management, we're prepared to help you intelligently lead the way. To provide you with the foresight to become more agile, realize new growth opportunities or even invent new things. We invite you to explore all that Informatica has to offer—and unleash the power of data to drive your next intelligent disruption. Not just once, but again and again.

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