



Automatic Fleet Routing (Telematics)

Overview

Fleet telematics is a way of monitoring the location, movement, status and behavior of a vehicle within a fleet. This is achieved through a combination of a GPS receiver and an electronic GSM device that is installed in each vehicle, which then communicates with the user and web-based software.

Applicable Industries



Agriculture, Forestry & Fishing



Automotive



Logistics

Applicable Functions



Information Technology



Logistics

Case Studies



[Routing and Logistics for Fleets - Greenlight SmartRoute](#)

SmartRoute powered by Sirqul is a routing and optimization solution that enhances a fleet's operational efficiency, enabling each vehicle and driver to maximize the amount of cargo they can pick up ...



[Real-time visibility of Supply chain operations with IoT](#)

Food service delivery companies generally manage large volumes of food or non-food products, with very low profit margins. And, one of their major challenges involves optimizing operational efficiency ...



[Intelligent Farming with ThingWorx Analytics](#)

Z Farms was facing three challenges: costly irrigation systems with water as a limited resource, narrow optimal ranges of soil moisture for growth with difficult maintenance and farm operators cannot ...

Market Size

Estimate A The global market size for telematics is predicted to reach USD 49.1 billion in 2020.

Source: [Allied Market Research](#)

Estimate B As a second source, the global market for telematics is predicted to grow from USD 20.0 billion in 2015 to USD 47.6 billion in 2020.

Source: [Markets and Markets](#)

User Viewpoint

Business Value

How does this use case impact an organization's performance?

In addition to location data, a fleet telematics solution provides a list of vehicles showing the status of each. You can know when a vehicle starts and shuts down as well as idling status, location and speed. This information gives you complete, near the up-to-the-minute knowledge of your fleet activities in one centralized, web-

based interface.

Expected Benefits: Increased productivity, reduce labor cost, control fuel costs, improve customer service, increase fleet safety & security, reduce operating expenses, reduce unauthorized vehicle use.

Key Performance Indicators

How is the success of the system measured for users and for the business?

Costs per mile, customer satisfaction.

System Capabilities & Requirements

What are the typical capabilities in this use case?

Monitoring location, movement, status and behavior of a vehicle.

Performance Requirements: High uptime and connection security for reliable data collection and real-time analytics.

Deployment Environment

Where is the 'edge' of the solution deployed?

Any kind of vehicle that is part of the operation process.

Technology Viewpoint

Sensors

What sensors are typically used to provide data into the IoT system, and which factors define their deployment?

Location tracking sensors, vehicle remote control and disabling systems.

Analytics

What types of analysis are typically used to transform data into actionable information?

Analytics of best route based on location and traffic information, vehicle condition and cost prediction.

Cybersecurity

What factors define the trustworthiness of the solution?

Vehicles as moving objects in different locations can be tampered with. Tracking information needs to be securely transmitted.

Cloud & Edge Platforms

What factors define the cloud and edge platforms used to integrate the solution?

Edge devices integrated into the vehicles combined with an uplink to cloud servers for data storage.

Connectivity	What factors define the connectivity solutions used to provide both device-to-device and device-to-cloud communication? Latency requirements.
User Interface	What factors define the interfaces available to the system users? System user needs to be able to have an overview about everything vehicle related.

Data Viewpoint

Data Sources	How is data obtained by the system? IoT sensors and tracking devices reporting about location and condition of the vehicle.
Data Types	What data points are typically collected by the system? Location coordinates, motion patterns, vehicle condition data.
Data Volume	What volume of data is expected from each deployment, and from the system as a whole? Depends on the size of the fleet and the industry in associated.
Data Requirements	What other requirements define data behavior? Location data must be available in real-time to be able to adapt the calculated best route to changing conditions.

Implementation Viewpoint

Business & Organizational Challenges	What business challenges could impact deployment? There are regulatory and legal issues at stake for businesses to adopt this technology as data safety/privacy is still a sensitive issue. Most companies are not willing to disclose their data through a completely liberal GPS tracking approach in fear of data breach and/or personal privacy of the drivers.
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Integration Challenges

What integration challenges could impact deployment?

Integrating satellite-based technologies into your business can give rise to a host of issues, ranging from failures caused by improper installation of hardware to inadequate training of the workforce in the new technology. Integration issues can arise in connection with harmonizing business operations and contract documents with the new technology.

Installation Challenges

What installation challenges could impact deployment?

No major challenges in installation, but a certain amount of investment is needed to ensure seamless real-time data transfer.

Regulatory Challenges

What regulatory challenges could impact deployment?

The GPS/satellite area raises regulatory issues. Several countries impose special taxes or restrictions on GPS equipment in addition to the usual import tariffs required by other types of electronic equipment. In different industries such as aviation and maritime industries there are different regulations.



IoT ONE Use Case



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