# Fuel Management System
## (AJV-SOF-FMS-001)

## Introduction

Fuel-management systems are used to maintain, control and monitor fuel consumption and stock in any type of industry that uses transport. Fuel-management systems are designed to effectively measure and manage the use of fuel within the transportation and construction industries.

A fuel management system is an amalgamation of hardware and software systems. It enables fleet managers to track, control and optimize the use of fuel and ultimately save costs.

They are typically used for fleets of vehicles, including railway vehicles and aircraft, as well as any vehicle that requires fuel to operate.

Fuel management systems monitor how much fuel was purchased and when and where it was purchased. This information is then compiled in a report, where fleets can use the information to find the best places to fuel and to find suspicious transactions.

Ajeevi Fuel Management System Dashboard displays the Summary of:

Fuel Summery
- Avg Unit Price by State
- Total Trans Amount by State and Fuel type
- Transaction Count by Fuel Type

## Uses

Fuel management systems help businesses reduce CO2 emission by creating reports to compare vehicle performance. By implementing a fuel monitoring solution you will soon see an improvement in the following areas:
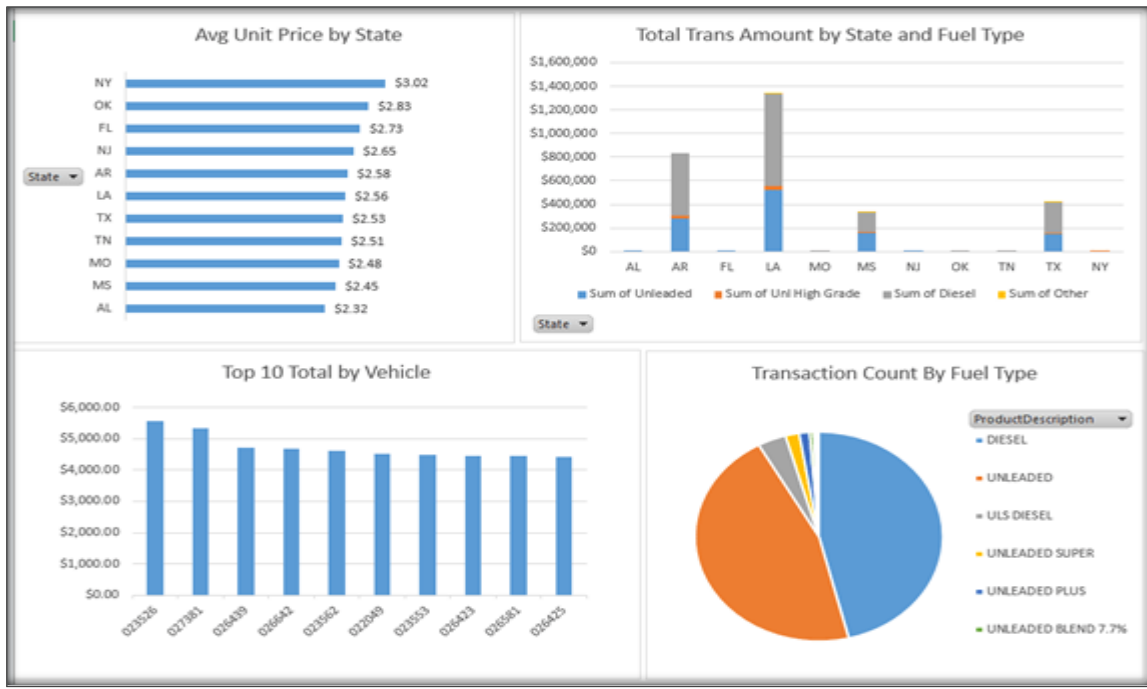
- Improved fuel economy
- Reduced CO2 emissions
- Increased fleet utilization
- Significant cost reduction potential
- Easier, simplified management of fleet and fueling operations

- Manage, monitor, and report fuel costs
- Vehicle maintenance
- Route optimization
- Fuel card integration
- Fuel economy calculator
- Own/Contractor managed fuel stores
- Fuel purchase/transfer/issue/return
- Fuel request and transfer between sites
- Fuel stock verification
- Maintain receipts of fuel purchase and issue
- Approve/Reject fuel Issue requests
- Vehicle/Equipment-wise fuel consumption tracking
- GPS validated fuel transfer/issue
- View date-wise/month-wise fuel transactions
- Integration with GHG Greenhouse/Carbon accounting module to track fuel utilization of company-owned & rented vehicles
- Alert/email notifications on stock transfer/receipt

The Benefits of a Fuel Management System :-

- Improved Data Accuracy
- Lower Costs of Fuel
- Reducing Fraud
- Improve Fuel Efficiency
- Prevents fuel thefts and fuel misallocation
- Streamline fuel tax reporting
- Monitors drivers behavior

## Features

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**Technical Specifications:**

| S.no. | Parameter | Remarks |
|---|---|---|
| | **GENERAL** | |
| 1 | Centralized and Integrated Solution | Ajeevi Fuel Management System |
| 2 | Technology Used | COTS (Commercial Off The Shelf) Technology |
| 3 | Access Features | RBAC Model (Role-based access and control) |
| 4 | Architecture | N-tier scalable architecture, modular design, robust software |
| 5 | Framework | .NET Core Framework, ASP.Net MVC |
| 6 | Database | SQL Server 2016 and above, Mongo DB, Posgre SQL, Unifieddatabase for all SWM data |
| 7 | Operating System | Windows / Open Source Linux |
| 8 | Front end | Java Script, Jquery, React JS, Angular, HTML, Bootstrap, RazorPages |
| 9 | IOT Hub Integration | Kafka, Rabbit MQ, Socket Programming, Web APIs |
| 10 | Application Availability | High availability and DR replicability |
| 11 | Single-Sign On facility | Available |
| 12 | Audit Trail | Ability for logging, audit, and tracking of any changes carried outon the database |
| 13 | Interoperability Standards | Can be integrated with any other application through web APIs(Push or Pull) |
| 14 | Security Features | 1. Security design with well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.<br>2. Support for security features such as W3C specifications, Information access/transfer protocols SOAP, HTTP/HTTPS, etc.<br><br>3. API Integration allowed post authentication |

| 15 | External Communication | Through SMS Gateway and SMTP Integration | |
|----|------------------------|------------------------------------------|--|
| 16 | Web Enabled Solution | Yes | |
| 17 | Services for GIS Integration | Google Maps, ESRI Map, Any other available open map | |
| 18 | GIS Features | Geo-mapping, Geotagging, POI, Geofencing through Geo JSON and drawing tool | |
| 19 | Deployment Features | SaaS Model, On-Premise Model, BOOT Model | |
| 20 | Cloud Deployment | Amazon AWS, Microsoft Azure | |
| 21 | Information Security | ISO 27001 certified System | |
| 22 | Operations | ISO 9001 Certified | |
| **B** | **FUNCTIONAL FEATURES** | | |
| ➢ | General Features | Ajeevi Fuel Management Platform is Easy to Access, Easy to register & UserFriendly. | |
| | | Track fuel transfer transactions between stores | |
| | | Support sustainability and find savings through electrification | |
| | | Decrease waste caused by fuel theft | |
| | | Record fuel receipts & issue | |
| | | Improve fuel efficiency with proactive vehicle maintenance | |