Automatic Vehicle Identification System

Contactless refuelling and payment solution

- Exceptional loyalty for oil companies
- Maximum savings for fleets
- Relevant system in today's challenging times
- Increase customer loyalty

Payment solutions

GILBARCO VEEDER-ROOT

No contact. No cards. No cash. No problem.

Automatic Vehicle Identification (AVI) ensures the safety of your customer and employees by enabling contactless payment.

AVI is a wireless, battery-less, passive RFID tag which is installed on the vehicle and provides a tight bond between a vehicle, the flow of fuel, and the account.

Suitable for both self-service and forecourts with station attendants. A relevant solution for today's challenging times and tomorrow's refuelling experience.

Solves business problems.

Why AVI?

→ Provide a unique offering that benefits fleets, ensuring they stay loyal.

→ Make the fueling transaction, payment, and invoicing process easy, safe and convenient

→ Build new revenue streams (offer accounts, services, deliver data, and invoicing fees)

→ Benefit from pre-paid accounts (the float)

→ Understand customer buying behaviours

→ Provide targeted customer offerings (discounts, account types, etc.)

Solves business problems

For Forecourts

- → Provide a unique offering that benefits fleets, ensuring they stay loyal.
- → Make the fueling transaction, payment, and invoicing process easy and convenient
- → Build new revenue streams (offer accounts, services, deliver data, and invoicing fees)
- → Benefit from pre-paid accounts (the float)
- → Understand customer buying behaviours
- → Provide targeted customer offerings (discounts, account types, etc.)

For Fleets

- → Ensure fuel goes into your vehicles (eliminate fraud, lower costs)
- → Eliminate manual back office tracking process (all automated reporting)
- → Simplify fuelling process for drivers
- → Automatically collect and report vehicle /engine data (ID maintenance issues, stop tank siphoning)

Benefits

Safety & Security

No human intervention (faster, simpler, more accurate) or interaction ensures safe social distancing

Security that fuel goes into correct vehicle (protect fleet owner costs)

Sends alerts on unusual behaviour and fuel consumption.

Maximise Revenue

Provide a unique offering that benefits fleets, ensuring they stay loyal

Make the fueling transaction, payment, and invoicing process easy and convenient

Build new revenue streams (offer accounts, services, deliver data, and invoicing fees)

Benefit from pre-paid accounts (the float)

Control

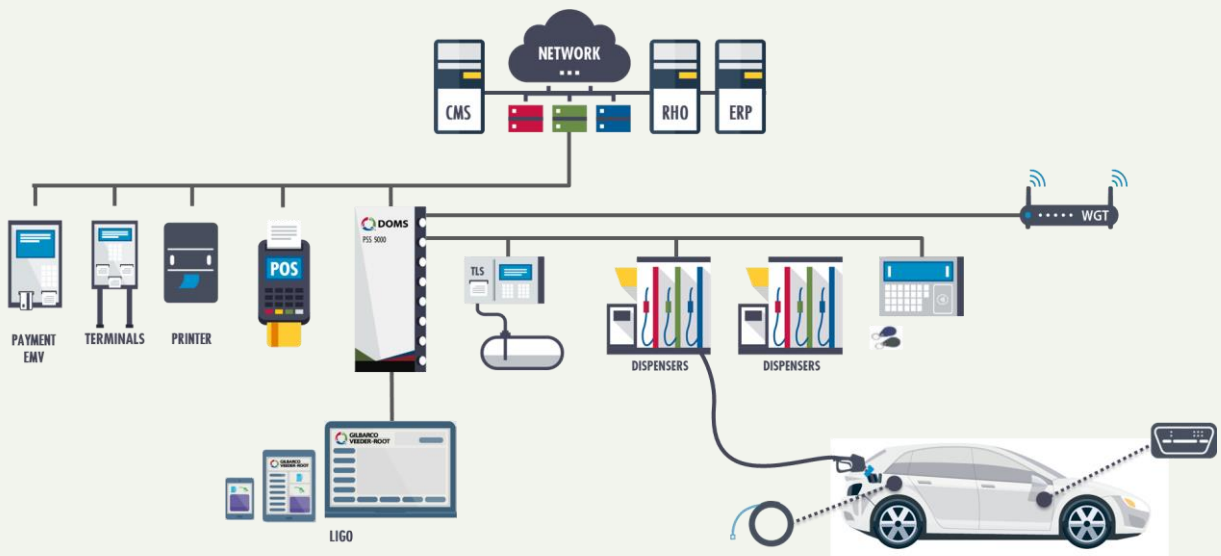
Automated operations with real-time insight on fleet and fuel status.

Complete control of fuel usage while reducing fuel expenses, misuse, and losses.

Automated, card-free system to enable fuel purchase at participating retail service station.

AVI Architecture

Compliments your existing Gilbarco Veeder-Root solution suite



AVI provides more benefits and more control and ensures that fuel is dispensed only into authorized vehicles, thereby eliminating fraud and lowering costs.

AVI Components

Automatic Vehicle Identification (AVI) ensures the safety of your customer and employees by enabling contactless payment. Suitable for both self-service and forecourts with station attendants. A relevant solution for today's challenging times and tomorrow's refuelling experience.

Vehicle Components

Passive Tags

- → Limited control. - reader sends signal to the tag using an antenna.
- → Tag receives this information and resends this information along with the information in its memory.
- → Reader receives this signal and transmits to the processor for further processing.

RFID Vehicle Units

- → An RFID device installed near the fuel inlet
- → Includes secure payment data
- → Removal protection mechanism
- → Passive device – no power needed
- → 'Ring' or 'Cube' form factor
- → Easy to install, fits any vehicle

RFID Vehicle Units

- → Transmitter connected to OBD/ CAN-bus
- → Odometer & Engine hours - Basic
- → Additional data (maintenance, driver behaviour)
- → Wirelessly transmits data to station network
- → Fast installation and configuration
- → For light vehicles or heavy vehicles
- → Auto detect (CAN Bus), no calibration needed
- → Optional Extra: Add AccuTrip+ for location data

Station Components

Controller

- → Long life, no moving parts.
- → Industrial temperature specification with no requirements for extra cooling
- → Maximize forecourt uptime
- → Lower skilled maintenance and costs
- → Safe shutdown & fast restart (no lost data)
- → Robust towards unstable power conditions

Gateway Terminal

- → Secure station wireless network for the Nozzle Reader & DataPass
- → Uses 802.15.4 (Zigbee) over 2.4GHz frequency
- → Full station coverage, from single unit to mesh architecture
- → Mesh technology providing high availability

RFID Nozzle Reader

- → Self contained wireless compact transponder
- → Battery life 2-3 years, field replaceable
- → LED indication
- → Extremely durable and reliable
- → Effective removal protection / Tamper detect
- → Fits any nozzle type, holster and vehicle inlets
- → Innovative 'grip' mechanism
- → Certifications: ATEX zone 0, FCC, CE, UL

Technical Specifications

The following table provides technical specifications for the components of the AVI solution. Specifications are subject to change without notice

Physical	Vehicle Unit	Data Unit	Gateway Terminal	Nozzle Reader
Dimensions (H x W x D)	**4.2 x 2.3 x 0.78 (Nano)**	**7 x 5 x 1.5**	**18 X 18.2 X 6.2 (outdoor box) 20.1 x 12.5 x 6.1 (integrated box)**	**4 x 8.4 x 6**
Electrical				
Wireless	**RFID ISO 18000-2**	**3dbm (2mW), IEEE802.15.4 with proprietary mesh network**		**3dbm (2mW), IEEE802.15.4, with proprietary mesh network RFID ISO 18000-2**
Frequencies	**RFID, 108-131 kHz**	**2.405-2.480 GHz**		**2.405-2.480 GHz RFID, 108-131 kHz**
Operating Temperature	**-40° to +80°C (-40° to +176°F)**	**-40° to +70°C (-40° to +158°F)**	**-40° to +55°C (-40° to +131°F)**	**-40° to +60°C (-40° to +140°F)**
Operating Voltage		**9 - 32 VDC**	**12 - 28 VDC 100 - 240 VAC w/p.s.**	**3.6 VDC**
Communication				
Interfaces		**OBD-II CAN & K-LINE, J1708/J1587/ J1939/FMS**	**LAN, RS485, RS232**	
Environmental				
IP Rating	**IP67**		**IP66 (NEMA 4X) (outdoor box)**	**IP67**
Certifications				
		FCC, CE, cETLus, E mark	**FCC, CE, cETLus**	**ATEX Group II 1 G, Ex ia II B T3 Ga, cLCus Zone 0**

Why choose AVI?

- **Safe distancing**
  - → Near-zero physical contact
  - → Contactless payment through charging account
- **Efficient refuelling**
  - → Automatically identifies and authorises refuelling for approved vehicles
  - → Monitor and manage refuelling
- **Increase customer loyalty**
  - → • Encourage brand loyalty and repeat visits
  - → • Easy refuelling and payment method
- **Maximum security**
  - → Fuel is dispensed only to authorised vehicles with valid charging account
  - → Secure RFID wireless communication system and management software
  - → Integration into existing forecourt controller and POS system

Automatic Vehicle Identification

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Payment solutions.

Find out how you could benefit from AVI payment.

Email: GVR-mea-enquiries@gilbarco.com
www.gilbarco.com/mea

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