



-  **Customer:** trade company, Ghana
-  **Machinery:** highway trucks
-  **Task:** remote blocking (immobilization) of engine
-  **Solution:** CANUp gateway, MasterCAN DAC converter
-  **Result:** improved cash inflow from lease payments

CUSTOMER

Trade company has been operating since 2011. Partner company owns several dozen stores throughout the country. Another business direction of the company is a leasing sale of trucks.

MACHINERY

Chenglong H7 truck tractors manufactured by Dongfeng Motor Corporation (China) are sold on lease.

The trucks have a 6x4 wheel formula. They are equipped with a six-cylinder diesel engine with a displacement of 10.3 liters. Engine power is 400 or 420 hp. One fuel tank with a volume of 600 liters is installed.



TASK



Leased cars operate throughout Ghana, including in remote areas of the country

Leased cars operate throughout Ghana. Most of the roads pass through sparsely populated areas – savannas, tropical forests.

As Trade company's many years of experience show, some lessee clients are unscrupulous. They may suddenly stop lease payments. On the same time, the truck is not returned to the lessor, but still being actively used.

It is physically very difficult to get back a truck from such a client. For instance, you need to go to a remote area of the country, spend time for finding the truck and negotiate with the lessee on the spot, also might be necessary to involve law enforcement agents. Trade company cannot do that activity requiring having costly debt collection department. Trade company doesn't want to take on the extra cost.

Trade company installed a fuel monitoring system from Technoton in its own truck fleet a few years ago. As Technoton's on-board equipment and telematics service performed well, trade company requested Technoton to come up with a solution based on already implemented approaches.

The idea of the solution was based on remote engine blocking of unscrupulous lessees' trucks. It's much easier to enforce the terms of a leasing contract if the asset cannot be used. Moreover, it allows preventing truck theft and moving them out to the neighboring countries.

SOLUTION

The remote engine blocking system consists of a CANUp telematics gateway connected to ORF5 online telematics service, and MasterCAN DAC15 digital-to-analog converter wired to electromagnetic relay.

If the vehicle engine must be turned off (immobilized), ***'s dispatcher sends an immobilization command through the online telematics service.

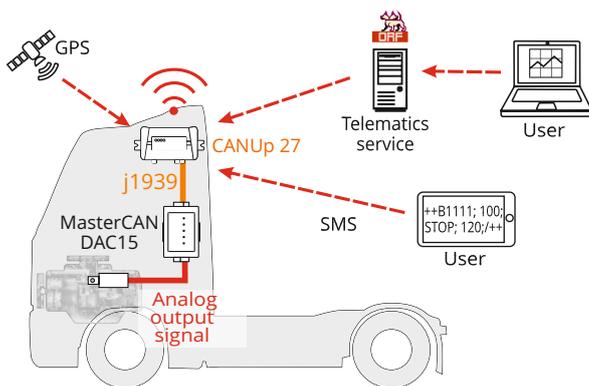


CANUp telematics gateway and MasterCAN DAC15 digital-to-analog converter

To avoid an emergency, the telematics gateway analyzes speed and location of a truck. **CANUp will execute the dispatcher's command only if the safety conditions are met - the truck has completely stopped and has been standing still for at least five minutes.** CANUp sends a message to MasterCAN DAC15 converter, which generates an analog output signal controlling an electromagnetic relay coil. The relay contacts open, fuel supply stops, and the engine turns off and gets immobilized from that moment.

It is also possible to immobilize an engine by sending an SMS command from a mobile phone. In this case, the online telematics service is not needed.

The driver of the truck will not be able to start the engine on his own until the *** dispatcher sends a new command via telematics service or SMS to



Composition of engine immobilization system unblock the engine.

Irina Radiminskaya, Technoton

*"The delay in lease payments was of great concern to the management of ***. The company had a successful experience with Technoton's fuel monitoring systems. Therefore, Technoton proposed to develop a system for GPS location tracking and remote engine immobilization. The system was successfully developed and implemented using CANUp telematics gateways, MasterCAN DAC 15 digital-to-analog converters and ORF5 telematics service."*



RESULT

The remote engine blocking system was developed in 2021. So far, 60 sets of equipment have already been delivered to ***. The test installations proved reliability and safety of immobilization procedures. The most convenient way to block the engine is blocking using an SMS command. Such a command can be sent by the operator at any time and without connecting to the telematics service. The engine will only be turned off when the vehicle has been stationary for at least five minutes. The risk of a forced stop of the vehicle on the move is eliminated.

Trade company plans to implement the remote engine blocking system on both trucks and passenger cars leased to clients.

CEO at Trade company

"Technoton equipment will allow us to solve two important tasks in the near future - timely receipt of lease payments and tracking the location of vehicles. This will help to normalize the schedule of cash inflows and remove additional costs for searching leasing cars and excess business trips connected to resolving operational issues. We plan to implement this system both on our vehicles and on the vehicles of partner companies."