

DOITS

Working Group Meeting Hilton Amsterdam Airport 2018.10.02

Attendees:

Sjef van Gool	Astrata
Bernd Meurer	Cargobull
Walter Gerling	Cargobull
Jim Crawley	Haldex
Christian Schering	Haldex
Jan Hermeling	Krone
Kurt Kunz	Krone
Aleksandre Opacic	Microlise
Steven Schutter	NxtPort
Fredrik Callenryd	Scania
Sjef van Gool	Astrata
Paul Verheijen	TomTom
Robin Fellows	TomTom
Giovanni Cacciola	Trimble
Jan Unander	UNIC
Peter E Petersen	Vehco
Harry Butcher	Verizon Connect
Paul Reynolds	Verizon Connect
Anders Björklund	Volvo
Peter Santén	Volvo
Arie van der Jagt	Wabco Transics
Joep van Poppel	Wabco Transics (by phone)

INTRODUCTION

DOITS role as forum is to support the transport industry and the actors in the transport ECO-system to become more efficient through harmonization of selected key data and the way this data is generated and made useful.

The method used in DOITS to accomplish this is based on the belief that it is more effective to let strong commercial actors on the market come to an agreement on how to best harmonize or standardize to support the whole industry. This method does also minimize the time from decision to implementation compared to e.g. in politically initiated projects.

Therefore DOITS carry this out by building co-operation between key stakeholders in the industries involved in the delivery of a specific function.

OBJECTIVE WITH DOITS MEETING OCTOBER 2:ND

The meeting on October 2:nd 2018 had as focus to agree on a common recommendation of functionality for a truck to capture the VIN number of the trailer over CAN. This to create a future proofed solution that can deliver the VIN to the truck in an as reliable and standardised way as possible.

At an earlier DOITS meeting an audit on the situation indicated:

- VIN number is not compulsory to include in the Trailer certification process.
- There is no legal requirement within EU to present VIN numbers of trailers to authorities. Germany is believed to have a central register but often the issue of privacy for individuals restricts building official registers of trailer VIN numbers.
- The responsibility to register the VIN number in the trailer electronic system relies on the owner of the trailer.
- There is no obligation for trailer owners to register the VIN number in the EBS system's software i.e. not all trailers can transmit their Chassis- VIN number through the EBS system.

If there is no legal requirement it also means that as long as a reliable VIN number is not easy to access, the transport and logistic companies will create other means to keep control over their fleet of trailers with the limitations that gives.

It is important to see the capture of trailer VIN over CAN as a very specific function that best is delivered over a fixed line and not as a threat to the existing wireless Trailer Tracking systems offered to the market. The use cases for wireless solutions are much wider and also irreplaceable when the trailer is disconnected from the truck.

Besides the trailer VIN delivered to the truck two other related issues were discussed:

- Upgrade existing rolling stock of trailers from 2005 – 2014 to enable delivery of VIN to trucks.
- Trailer receive the truck VIN to add value for trailer owners

Chassis number of trailers is equivalent to the terminology VIN number in this document.

TRUCK WILL RECEIVE THE TRAILER VIN OVER CAN TO CONFIRM RIGHT VEHICLE COMBINATION

To prepare for the implementation of the function that the Trailer VIN is delivered to the truck via CAN, it is essential to work together with the ACEA TF HDEI FMS standardisation group to ensure a mandatory implementation cross the seven truck brands in Europe. DOITS has been accepted by this standardisation group to be an advisory group and below is the status of the process in this issues so far:

April 2017

DOITS Working Group proposed to the European HD Truck Manufacturers to standardize the functionality in the truck to capture Trailer VIN via CAN. This to be accessed via the FMS and or rFMS interfaces.

June 7:th 2017

ACEA's TF HDEI FMS Std. Group confirmed truck asking for Trailer VIN over CAN will be mandatory in (r)FMS and asked DOITS to propose how this function should be specified.

October 1:st 2018

DOITS was asked if we can deliver a proposal on how to deliver Trailer VIN over CAN to the truck, to the TF HDEI telephone meeting on October 16:th 2018.

An extra follow up TF HDEI decision-making meeting on this issue might be organised if DOITS proposal is accepted

October 2:nd 2018

DOITS meeting was kept and an agreement was made to present a proposal based on both using the diagnostic channel as communication link as to ISO 11992-4 and the broadcasted solution based on ISO11992-2.

Proposing the ISO11992-4 solution via the Diagnostic communications channel opens up for increasing the penetration of the function to also older trailers delivered before 2014 and this proposal is also in line with an existing function that is already implemented by one of the major truck manufacturers.

Initially the main focus is on just providing the trailer VIN to the truck but if combined with a timestamp and a position when the trailer is connected and disconnected, it will become a very useful data set for all actors in the transportation industry.

PROPOSAL

You find the detailed specification of the proposal that will be sent to the ACEA TF HDEI FMS standardisation group in the enclosure. Please send your comments on that specification to me jan@unicab.se. The proposal will be sent this Wednesday Oct 10:th to ACEA's TF HDEI FMS Standardisation group.

1) Using the diagnostic communications channel:

This solution is based on a request and answer function and therefore do not include broadcasting of the VIN as communications technology.

Most Trailer EBS systems (from 2005 and later) are sending VIN via DCC VIN diagnostic messages, on request or broadcast (Haldex EBS), every couple of minutes

If the trailer DCC VIN messages would be copied through the FMS gateway (like some EBSxx messages are already) or re-formed in RGE23 messages on the tractor, maintaining the same source address(es), the Fleet Management Systems could pick the trailer VIN(s) up from there.

Challenges

1. Truck manufacturers are hesitant to use the diagnostic communications channel for other purposes than what is initially is meant for. It is important to get a broad acceptance of the proposal from the truck brands. An advantage would be to get the truck manufacturer that has already today implemented this solution to support the standardization.
2. The Trailer VIN needs to be properly configured in the EBS of the trailer(s). Haldex and Wabco will take initiative to discuss and propose how this can be accomplished
3. The DOITS group will take it as a task to together with the main EBS and trailer manufacturers discuss how to achieve a better and more strict implementation of the seventeen character VIN in the trailer configuration. This can include upgrading of trailers from 2007 and to date.

2) Broadcasting the signal from the Trailer

New trailer EBS systems (from 2015 and later) are sending VIN-data in message RGE23.

Even if RGE23 was introduced already in 2003 the VIN data was not started broadcasted until 2014 why the volume of trailers that can be reached is limited.

Challenges

The same issue applies that the VIN number cannot be captured as inserting VIN numbers into the EBS system is voluntary not compulsory.

UPGRADE EXISTING ROLLING STOCK OF TRAILERS FROM 2005 – 2014 TO ENABLE DELIVERY OF TRAILER VIN TO TRUCKS.

The preference is to use the full Vehicle Identification Number (VIN, 17 characters), because that is the only identification in the Western world that is standardized, legalized and verifiable by comparing it to the vehicle type plate (*Chassis number*).

Most trucks already provide their truck VIN as a data item on the dashboard display and to the outside world by their telematics gateway (FMS gateway). Using the truck information, fleet owners complain nowadays because of the lack of standardized trailer information where the trailer VIN is one of the most important data-items. However, this is not available in most trucks or their telematics gateways.

A challenge when implementing the function “Truck receive the Trailer VIN over CAN” is the inconsistency due to invalid or no VIN entry in the trailer system.

To address this the co-operation between the major trailer manufacturers is of utmost importance and an agreement to incorporate the trailer VIN provisioning into their production lines is a decisive step.

Also EBS systems suppliers need to be involved to ensure the quality of inserted data via error-checking the VIN-number in the system and mandating the entrance of a valid VIN at the next connection of their diagnostics software.

All trailers have a mandatory inspection scheme that differs somewhat between countries but in common is that at least once a year the inspection has to be done.

Trailers are also in for service and repair at various service centres where also upgrading of software can be carried out.

Therefore to reach the goal, inserting the VIN numbers in the production of new trailers as a part of the production process as well organizing upgrading the existing trailer rolling stock (2005-2018) to include the correct VIN number will be required.

This has therefore to be combined with main service centres to get them to check /or enter the full VIN number at the next contact with a trailer.

DOITS has not the vision of a 100% perfect situation but for fleet owners and trailer leasing companies that can identify their trailers and connect that to time and place of a trailer this will help them to improve their service levels as well as keeping their operational cost down.

TRAILER RECEIVE THE TRUCK VIN TO ADD VALUE FOR TRAILER OWNERS

There are many use cases where the owner or user of a trailer would benefit from knowing the VIN of the truck that tows a specific trailer. It can be connected to insurance issues as well as improving the asset management of trailers.

Technically it is a reversed solution from truck asking for trailer VIN over the Diagnostic Channel. Some updating has to be done by the EBS suppliers to ask for the Truck VIN. It is not known if it has been tested but the truck should answer with its VIN. If it does and if EBS suppliers upgrade their firmware to ask for the truck VIN, no standardisation process is necessary.

Even though the messaging and wiring and is the same as for "Truck ask for Trailer VIN over CAN" and the standards are in place there are still some technical issues on connection and communication that has to be taken into consideration.

Another issue that will influence the possibility for the trailer to capture the truck VIN is related to privacy regulations. A truck VIN can be tracked by time and position and theoretically the driver can be identified via drivers cards log ins.

It was discussed under the meeting how to get the correct picture of how privacy will influence the implementation of the trailer capturing the truck VIN.

DOITS will address the “Trailer receive Truck VIN in a specific session to come to a conclusion.

ACTION POINTS

- 1) Astrata (Sjef) will prepare the specification on how to create the functionality - *Truck receives the trailer VIN via CAN*. The specification will cover both capturing the data over the Diagnostic channel as well as using broadcast technology.
- 2) UNIC (Jan) distribute the summary from the meeting together with the proposal.
- 3) UNIC (Jan) collects feedback on the proposal and make corrections.
- 4) UNIC (Jan) send the proposal to the project manager of ACEA’s TF HDEI FMS Standardisation group on Wednesday October 10:th.
- 5) Haldex and Wabco will take initiative to discuss and propose how the EBS systems best can deliver the trailer VIN as specified in the enclosed proposal.
- 6) UNIC (Jan) will contact Schmitz Cargobull and Krone to understand the situation fully as regards the prerequisites to improve the penetration and quality of trailer VIN numbers in the EBS systems of trailer from 2005-2018. A proposal of a road map on how to implement VIN numbers in Trailers will be produced.
- 7) UNIC (Jan) will investigate the privacy regulations that would influence the use case if the trailer captures the truck VIN.

2018-10-08

Jan Unander
UNIC AB

Coordinator, Moderator
DOITS