DOITS

Working Group Meeting
Sheraton Amsterdam Airport
2017.11.14

Attendees:

Sergei Kucheiko	Astrata
Sjef van Gool	Astrata
Jim Crawley	Haldex
Horst Genthner	Haldex
Aleksandar Opacic	Microlise
Jasper Pauwelussen	TomTom
Arie van der Jagt	Transics
Joep van Poppel	Transics
Peter Huysmans	Trimble
Jan Unander	UNIC AB
Anders Bonander	Volvo

Agenda

The meeting had the following action points on the agenda:

1) Discuss and propose action to enable ”Handshake” between Truck/Trailer by exchanging VIN numbers over CAN.

2) Start the process to identify areas within Logistics where stakeholders in DOITS can contribute through harmonisation of data, functionalities or parameters.

3) Discuss on possibilities and needs to create harmonised ECO-driving measures for commercial vehicles, vans as well as trucks.

4) Strengthen DOITS identity

1. DISCUSS AND PROPOSE ACTIONS TO ENABLE ”HANDSHAKE” BETWEEN TRUCK/ TRAILER THROUGH EXCHANGING VIN NUMBERS OVER CAN.

The major reason for addressing the issue of a VIN handshake between truck and trailer is the fact that other solutions are not as reliable or efficient as a direct communication over CAN.

DOITS Working Group proposed to the European HD Truck Manufacturers to implement the functionality in the truck to capture Trailer VIN as well as deliver Truck VIN via CAN and they promised to bring this issue up at their TF-HDEI Standardisation Meeting on June 7:th 2017.

Outcome of the TF-HDEI Standardisation Meeting

DOITS proposal was received positively and the process to implement a function to capture the Trailer VIN over CAN and make it possible to access via rFMS, will be initiated.

A quote from the dialogue with the TF-HDEI Standardisation Group project manager is:

"We have discussed this in the Expert group and are prepared to update the rFMS as soon as the VIN of the trailer is available at the truck (and the back office).

As the FMS interface does not support request I think the trailer VIN will be part of the rFMS then.

The HDEI group is not working on the specification for the trailer connection to the truck.
So if there is a proposal available from your group to get the trailer VIN (maybe as a broadcast) please let us know and I will distribute it to the HDEI group for comments."

DOITS initial proposal to the TF-HDEI Standardisation Group included also that the truck will send truck VIN to the trailer. There is no comment on this in the reply above.

A major task at the DOITS meeting on Nov 14:th was to discuss the roadmap how to come to an agreement of what to reply to the TF-HDEI Standardisation Group. Ideal was to after the meeting propose a harmonised and practically adapted specification that can be accepted by all the key stakeholders.

To address the VIN handshake and get a deep understanding of the prerequisites, Haldex as a EBS supplier and key stakeholder was invited to the meeting and was represented by Mr. Jim Crawley - Homologation Engineer and Mr. Horst Genthner – Global Product Manager.

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

A conclusion of the Haldex presentation and the discussion that was kept with direct relevance to the VIN handshake issue is:

- In order to get a EU whole vehicle approval a vehicle has to be certified for various systems e.g. brakes, emissions etc.
- 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 was believed to have a central register but often the issue of privacy for individuals restricts building official registers of trailer VIN numbers.
- There is an editing function in Haldex DIAG software where the VIN number can be fed into the system (see page 16 Haldex presentation).
- 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 VIN number through the EBS system.
- There are some guidelines from UNECE 9.1.3 ADR as regards registration of VIN for vehicles carrying Dangerous goods. (See enclosure and https://adrbook.com/en/2017/ADR/9.1.3)

Conclusion is that without any legal or rewarding reason for registering the VIN number of the trailer, the risk is that not all trailers, even new ones, can deliver their VIN identity.

The two stakeholders that are able to know the VIN number are:

- trailer manufacturers
- trailer owners

Standardisation

ISO 11992 is a vehicle CAN bus standard for the heavy truck industry that regulates the communication with the truck and the trailer (-s). ISO 11992 is based on SAE J1939.

ISO 11992-2 : RGE12 include definition of messages on both Trailer and Truck VIN. (See enclosure T-CAN Standard and page 20 in Haldex presentation). This ISO standard includes both Trailer and Truck VIN:

- Trailer info data - 65283 - 2 - Index 1 - 15: ECU Serial number, ASCII Encoded , Index 16 - 32: VIN bytes, ASCII Encoded

- Truck info data - Truck VIN - RGE 12 – 5 and 6 - Index data content ,Proposed in ISO 11992-2 2013-12-02 FDIS

rFMS Standard 2.0

The Truck VIN number is MANDATORY to be aggregated by rFMS and can be requested with the frequency of max 1 minute, as to ISO 3779. (see page 10 in enclosed rFMS Standard 2.0)

According to specification Truck VIN can be accessed both through on-board FMS, rFMS but this has to be checked .

TF-HDEI Standardisation Group have had a workshop on data to be captured from the Tacho data and VIN is proposed as optional. (see enclosed pdf Proposal Tacho File-1). Interpretation is that the truck VIN can be captured from the tacho data.

Neither rFMS or FMS ask today for Trailer VIN.

T-CAN

"The development of the TCAN is an initiative of the European Transport Board and supported by Haldex Brake Products, Knorr Bremse and Wabco Vehicle Control Systems."

TIP Trailer Services were also involved in working out the enclosed agreement between the EBS suppliers.

You find information on (http://trailercan.org/)

You do also find the Haldex bulletin on T-CAN as an enclosure.

Necessary standards should be in place or?

Technical challenges

It is not obvious how to communicate the VIN number from the trailer to the truck via CAN as there is a trailer CAN to truck CAN issue and the Trailer Can is not directly connected to the Truck CAN. Sow how to share trailer/ truck data and create a handshake confirmation with VIN numbers?

Does it have to be an ECU in the trailer talking to an ECU in the truck to exchange VIN or can the trailer broadcast the VIN to be picked up by the truck and the truck deliver its VIN over rFMS?

What data bus used to communicate on has to be defined. There are poles not used in the sockets but the question is if they are suitable e.g. from safety or other aspects.

As always when introducing new functionalities the already existing park of vehicles is significant in size and to introduce solutions to give new functionalities require complicated retrofitting.

Trailers are in for maintenance more than once per year and as an example Haldex do upgrades of their EBS-systems twice a year. Theoretically it would be possible to start a process and over time upgrade the EBS systems to include communicating the VIN number to the truck and at the same time also include a question for the truck VIN number.

That is a question of organizing the Service and Maintenance workshops to do the upgrading of VIN when the standard upgrading procedure is done.

At this stage the focus for DOITS is to work for an implementation of VIN handshake in trailers/ trucks that have the necessary prerequisites. The main focus is therefore on new trailers and trucks that can factory fit the functionality.

One quality requirement is that the frequency of capturing the VIN numbers can be set to every 10 seconds.

What EBS –suppliers broadcast the trailer VIN already today?

- Haldex – No
- Knorr-Bremse – Unknown
- Wabco – Yes

So how to make it happen?

The parties involved in making the VIN handshake technically available are:
- EBS-suppliers
- Truck Manufacturers
- Trailer manufacturers
- Trailer owners (influencers)

Key stakeholders initially are:
- Truck manufacturers
- EBS suppliers
- Other users are After Market Fleet Management Solutions providers that want to deliver more customer value through their solutions and services.

EBS Suppliers

To reach an agreement on broadcasting the trailer VIN and do it in a harmonized way Haldex, Knorr-Bremse and Wabco have to confirm their interest and commitment.

The best forum is to address this within their T-CAN group that also is their standardisation group similar to truck manufacturers TF-HDEI Standardisation Group.

Truck manufacturers

They confirm their interest for capturing the trailer VIN at the TF-HDEI Standardisation Meeting on June 7:th 2017. It is important and they are willing to invest in creating the trailer/truck VIN handshake.

However, the decision did not include how the delivery of the truck VIN to the trailer system will be done that is perceived important by the EBS suppliers and After Market FMS suppliers.

In successful solutions with more than one stakeholder involved the goal must be to create a Win-Win solution as that will improve the final usability as well as reduce the time for implementation. This applies also in this trailer/ truck VIN handshake solution.

As the TF-HDEI Standardisation working group did not confirm if or how they will transmit the truck VIN to the trailer, the perception is that there is a need to find out the how this can be done.

Before communicated to the TF-HDEI Standardisation working group the advantages (cost/benefits) should be identified to see how the new functionality including deliver the truck VIN to the trailer can add value to also the truck manufacturers.

Trailer manufacturers

At this stage the trailer manufacturers are not considered necessary to involve.

Trailer owners

Strong influencing forces are the large trailer owners i.e. rental companies like TIP, PNO and large fleet owners with their own trailers. TIP was also involved in the T-CAN standard. (see enclosed)

ACTION: DECISIONS TAKEN IN DOITS – TRAILER/TRUCK VIN

a) J Unander will collect input from DOITS members and Haldex and summarize this into a description of the benefits for both the EBS suppliers and the truck manufacturers. Attendees at the DOITS meeting confirmed their support in identifying possible benefits and this process will start immediately.

b) J Unander will initiate a dialogue with truck manufacturers to understand their incentives and prerequisites for retrieving trailer VIN as well as sending truck VIN to the trailer.

c) Together with EBS suppliers and truck manufactures J Unander will produce a document based on perceived benefits for the two parties for them to make their cost/ benefit analysis.

d) EBS suppliers and truck manufactures will be offered to use DOITS working group as a forum to meet and discuss the prerequisites for a standardisation of the trailer/truck VIN handshake.

It might also be so that to support the transport industry, a discussion on other benefits through sharing other trailer/ truck data can be addressed. There are many undiscovered opportunities to combine trailer/truck data that can support overall profitability, safety as well as cost of operations. Some solutions might need a direct ECU-ECU connection if e.g. safety critical and real-time communication is a necessity.

2 START THE PROCESS TO IDENTIFY OTHER AREAS WITHIN LOGISTICS WHERE EXISTING STAKEHOLDERS IN DOITS CAN CONTRIBUTE WITH HARMONISATION OF DATA.

At the DOITS meeting June 29:th 2017 J.Unander presented the idea to discuss what DOITS can do more to support the logistics companies e.g. following the goods all the way from sender to receiver i.e. from package, pallet, container, ship, port, flat bed trailer, semi-trailer, truck.

An overview of some key issues that will change the logistics market was presented. (see attachment Presentation Nov 14 pages 9-27)

Kuhne+Nagel had planned to participate at this DOITS meeting to describe their new challenges and discuss opportunities but unfortunately they had to cancel their participation in the last minute but provided a summary on slides that were presented at the meeting. (see Presentation Nov 14 pages 28-30)

The logistics industry's existing infrastructure is in a period where it is challenged due to e.g. the e-Commerce explosion but also that there are threats from disruptive companies that by-pass (Uberization) the traditional intermediate players traditionally found amongst 2PLs and 3PLs.

Consequences are both a trend towards higher demands on fast and flexible transports as well as an increasing number of companies that connect the sender directly with the truck driver/transport company thus by-passing the forwarders.

These changes and the reactions from existing players puts pressure on the need to follow the goods position much closer and CORRECT AND RELEVANT DATA WILL BE THE KEY COMPONENT to meet this demand.

Transport of containers and goods on e.g. pallets also face challenges when the traditional structure is changed due to alliances in the ocean line companies as well as when 2PL, 3PL companies climb higher on the value chain when market converge. (see Presentation Nov 14 page 24).

There are initiatives to increase utilization of containers like http://www.avantida.com. One third of all containers are empty (even higher figures are sometimes mentioned).

Ports have observed how the problem with data exchange influences on the efficiency and J Unander has made contact with the port of Antwerp that has built a platform to enable key players to share data.

Can we learn something from this initiative that will point out areas where the combined experience in the DOITS working group can be used to propose new harmonized solutions?

Actions: J Unander will investigate the value for DOITS to invite a representative from e.g. Port of Antwerp to the next meeting to understand if there are opportunities that the industries represented in DOITS can through harmonization of data, contribute to this development.

We will also invite other companies from the logistics industry to the next meeting to have a discussion on if and how the DOITS members can contribute with harmonized solutions.

3. Discussion on possibilities and needs to create harmonised ECO-driving measures for commercial vehicles, vans as well as trucks.

It was brought up at the meeting on June 29:th 2017 that a new possible area for DOITS to address could be to specify and define harmonized measures for ECO-driving of Electrical and Electrical Hybrid commercial vehicles. That included all commercial vehicles including vans.

The background is that there are few sign of someone that focus on this area and the question was; *Can DOITS members together make a framework of parameters and how to generate and capture them, to support ECO-driving of EV and EVH commercial vehicles?*

J Unander promised to search for existing initiatives to be presented at the meeting and there are not much communicated although there are signs of activities.

It was concluded that the traditional important ECO-driving parameters are:
- Acceleration
- Deceleration
- Braking

A summary of possible indicators based on information found is:
- Time from stop to reach cruising speed (acceleration)
- Time from braking to full stop (harsh braking)
- Number of occasions shift selector is in neutral at stop
- Time driving at constant speed
- Time using cruise control
- Time driving in ECO mode
- Times in overtaking mode

This discussion will be brought up again when Scania and Volvo both participate as they are the DOITS working group members that are most updated on design of commercial electrical vehicles

Action : No specific action. J Unander will look for more info on ECO driving of electrical vehicles and give a report at next meeting.

4. DOITS IDENTITY

J Unander have perceived challenges to define exactly what DOITS is and our mission when talking to media as well as to organisations and companies that we would like to involve in the process.

Unclear definition of DOITS creates hesitation from others to contribute and participate.

The question, how to create awareness of what we do and actually have accomplished was discussed at a previous DOITS meeting and it was a common view in the working group that DOITS should be defined and marketed as a group of European industry leading companies that work cross-borders together to simplify for the logistics industry to access and use data from the trucks and related sources in the logistic industry.

Since half a year ago J Unander has subscribed to a cloud based platform that gives access to key European media channels and based on this, built a DOITS focused database that includes 150 journalists working at the most important transport related media channels in Europe. A promotion activity towards this database was done in January 2017. The question I often got when talking to these journalists was "What are you and where can we read about you"?

Their interest was high and we have been asked to write articles to describe the DOITS.

To prepare for a stronger DOITS profile we have secured the right to the domain DOITS.org.com and started to build a website that will communicate the DOITS mission and members structure as well as the essentials from our work. This will also support us to comply with the EU regulations of "Fair competition" we need to share the information with anyone that is interested in following our progress.

A clear identity is the platform for getting attention and respect from the external stakeholders we want to involve in our work. However, it is also important to communicate internally in your own companies what DOITS is as you invest both through the yearly membership fee as well as in the time you invest contributing at our DOITS meetings.

Action: How to strengthen the DOITS identity further is to be brought up at the next DOITS meeting. J Unander will meanwhile build and publish the initial DOITS homepage so you in the working group can access and evaluate it to be discussed how to improve at the next DOITS meeting.

5. Swedish project T3C

T3C is a project (pre-study) initiated by Telematics Valley and now run by VTI Environmental Institute of Sweden and financed by public funding in Sweden. This project was presented to those of you that were still at the DOITS meeting in the late afternoon of November 14:th. (see enclosed slide T3 Prestudy).

The objective with the pre-study is to evaluate the prerequisites to build a data brokerage service based on rFMS data.

The same issue was up as a possible task to address in 2014 at a DOITS meeting but was considered to touch the definition of not complying, due to its possible commercial implications, with the EU regulations of "Fair competition". Therefore to avoid any criticism from the EU it was decided not to address this at that time.

If anyone is interested to know more about this project you can contact Johan Amoruso Wennerby at Vehco – also chairman in Telematics Valley. Johan's mobile is +46 705329766.

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