DOITS

Working Group Meeting
World Trade Center – Schiphol, Amsterdam
2023-05-23

Attendees:

Johan Fagerlind	AddSecure
Jeroen Kors	Astrata
Jan Unander	DOITS (Moderator)
Lukasz Rozanski (On-line)	EU DG GROW
Stefano Peduzzi	Geotab
Jim Crawley	Haldex
Christian Schering	Krone
Georgia Kaiser	MAN
Paul Ponder	Microlise
Alex Opacic	Microlise
Walter Gerling (On-line)	Schmitz Cargobull
Mark Jacobsen	Thermoking/ Trane Technologies
Jonas Jepson	Traton
Giovanni Cacciola	Trimble
Henrik Liske	Volvo
Paul Verheijen	Webfleet
Neil Purves	Webfleet
Arie van der Jagt	ZF Transics

Objectives with meeting

The meeting had the following action points:

1) Data Act – Follow up on status since last report from DG GROW and discussion on consequences for the vehicle manufacturers (trucks and trailers) and After Market Solutions Providers.
   - Participating On-line, Lukasz Rozanski, Legal Advisor DG GROW

2) Challenges and Opportunities using EV truck data**.**
   - Presentation by Stefano Peduzzi – VP Technology Solutions and Operations Europe, GEOTAB

3) Status of standardisation of EV truck data at ACEA HDEI.
   - Presentation by Jan Unander of information received from ACEA HDEI Group

4) Cold chain – Introduction of Thermoking and discussion on challenges.
   - Presentation by Mark Jacobsen - Thermoking/Trane Technologies

5) Status of the situation for the Truck and Trailer VIN handshake

1) Data Act

Lukasz Rozanski emphasized that work is still on going and have advanced some steps further in the process since DOITS last meeting on implementing the Data Act on the European transport industry and equal rights to functions and resources but the list of data that must be available is not specified.

Exactly where the situation is on a timeline is not possible to state but the legislators have planned to be ready by May 2024 but that is not guaranteed. But if so, the directive will be presented in beginning of 2025 and the normal process for implementation is 2 years so theoretically would the new legislation be mandatory in 2027.

It was mentioned an amendment to the initiative is that it is necessary to get:
- Availability of data transparence
- Access to functions
- Access to resources either in-vehicle or outside vehicle

A set of data (not specified) should always be available.

It is clear that the initiative “Access to vehicle data, functions and resources” will take place and most probably included under the Data Act Initiative, however this is not yet adopted by the Commission.

DG GROW will form a dedicated forum that work on a core list of data and functions to be listed. The forum will not have “in blanco” decision power in the process.

Issues on status and consequences in cost for data and functions will be addressed.

It has also been discussed if there should be a list of use cases, but no such list will be produced.

The ambition is to deliver a list of data, functions and resources that must be accessed by all parties asking for access.

Comments from Traton
Traton is struggling in seeing the value of what access to resources and functions will do for the industry.

The use cases brought forward are:

- Opening/ locking doors
- Right access to remote diagnostics
- Data intermediates want access to functions and resources
- Access to resources need onboard computing
    - E.g. advanced insurance services
    - Communicate with driver via dashboard
    - Mirroring gives lower quality than access to HMI

Article 4&5 in the Data Act says "all data available". However, DG GROW confirm access to safety critical functions is outside the scope.

One key aspect is to establish an equal treatment of all parties and today OEMs are "gate keepers".

Comments from Traton
You can always spoof the system! There are challenges viewed from the OEM side. See enclosed slides from Traton.

The EU initiative do not specify direct access to be organized. If the access to data, functions and resources can be delivered in back-end servers that is OK. Then it is less risky.

Lock/ unlock is an issue of competition and market players do already make access to this to all on the market.

The new services offered on the market are sub-coordinated and data is available in different formats that makes it expensive and difficult for After-market actors to develop solutions cross brand. Due to not coordinated data the cost for developing services and for the end users are higher. A more dynamic development cross brands is preferred.

Comments from Thermoking
We see challenges handling all the various suppliers of door locks.

Today DG GROW do not see use cases, just focus on making sure they will be able to address them.

Traton
What requirements do rFMS have on resources?

Trimble
rFMS has a frequency problem.

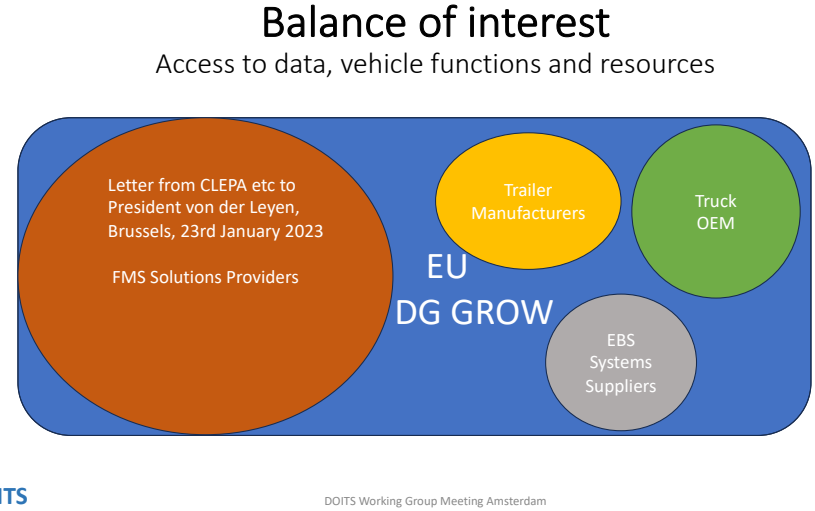
Webfleet
If we want to develop some services with increased frequency it will increase load on servers. E.g. a tire wear model needs speed, acceleration etc and if you want to run these models, edge processing is probably necessary.

Traton
It feels like the Data Act is dominated by car related issues and a proposal is diverse the focus on passenger cars and CVs.

DG GROW agree to separate cars and CVs but the basic principles are still there:

- equal access to data, functions and resources
- stimulate harmonization

MODERATOR COMMENT
The role and working methodology of the ACEA FMS/rFMS group has to be seen as it is and that means they do not have the power to require the brands to follow the agreed ambitions to coordinate the data delivered from their vehicles. Development processes are different in time, data is generated with different quality and accuracy due to the various designs of the systems and selection of components.



One way to look at the situation to move towards the goal of DG GROW is that the market players have to find a way to a balance of interests where a give and take attitude should apply. (note that size of circles are only symbolic).

In the ideal world the commercial market should create this balance themselves.

2. Challenges and Opportunities using EV truck data.

Geotab as a US based company have established themselves in Europe.

The company have created an Authorized Geotab Resellers organization for all markets that sell their products and services within fleet management.

EVs become more and more important in Geotabs business.

Geotabs solutions have no interaction with FMS/rFMS and do not use this interface.

When it comes to EV related data Geotab have looked at the J1939 standard as well as the VDV-238 standard, that is a German upcoming standard for electric buses initiated by "Verband Deutscher Verkehrsunternehmen".

PGN/SPNs in the SAE standard compliant with J1939 will define a minimum set of data for EVs.

Geotab will not go outside the existing J1939 standard and showed a list of data points that could be a start for an adapted EV standard.

The "Last mile" delivery with EVs has to poor solutions today and have to be addressed.

Comments from Schmitz Cargobull
Also the truck trailer should be viewed on as one unit, complete vehicle. The trailer can support the complete vehicle with battery capacity.

To read more about Geotab please find enclosed the presentation by Stefano Peduzzi on this link.
https://docs.google.com/presentation/d/1GHyb77_PFBzfpVbG11NjBmKXBKZJn5vZRqp_yOlwWZw/edit#slide=id.gdb284aa95f_0_61

3. Status of standardisation of EV truck data at ACEA HDEI.

The coordinator of the ACEA FMS/RfMS standardisation group, Armin Keller, was invited to join the meeting on-line but was unable to make it but did send us a presentation that was an update on the situation as regards standardisation within EV trucks. (See enclosed)

It is important to see the role of the standardisation group that is to define how data can be provided in a standard way".

Quality and accuracy of signals not in the standard (as well as no specification in SAE). It depends on brand/model/ECUs etc. normally never part of a standard. This information can only be delivered by each OEM on his own.

There are FMS/rFMS standardisation organisations both for trucks and buses.

Truck: **H**eavy **D**uty **E**lectronic **I**nterfaces
Members HDEI:

- MAN Truck & Bus
- Daimler Truck
- Scania
- Volvo / Renault
- Iveco Group
- DAF

Bus: **B**usses/**C**oaches **E**lectronic **I**nterfaces
Members BCEI:

- MAN Truck & Bus
- Daimler Truck
- Scania Bus
- Volvo Bus
- Iveco Group
- VDL

The first version covering also EVs is the "2012: Publication of FMS-Standard (Truck and Bus) V.3. However available is "2021: Update of V.4 with additional Tell Tales esp. for E-vehicles".

The ambition is to support (data) other engine types than Diesel engines with the goal to have equivalent data as specified for Diesel engines (e.g., consumption)

- E-Vehicles
- Gas
- Hybrid
- H2

The content of the rFMS documentation/ standard is:

- Authentication (acc. OAUTH2)
- How to get data from the vehicle
    - Tachograph data (mass memory, driver card data)
    - FMS data (acc. Actual FMS version)
    - Position data
    - Trailer data
    - Lot of (accumulated, snapshot) data from vehicles with other engine types than Diesel engines (gas, hybrid, electric)

On a direct question, compared to standardisation of CE CV, the standardisation group have the following comments:

- EV much more difficult.
- Information might be available on the internal bus but in a proprietary message and different over the brands.
- Main reason is no definition in SAE at start of the development.

- SAE has added some information in standard messages, but too late to have it in the vehicles.
- Translation of proprietary messages to standard messages is limited for the FMS gateways. Therefore, recommendation is to retrieve the information from the backend of the OEM (rFMS).
- In addition, a lot of the EV data are on request, which means more workload for the gateways to provide the information with a dedicated repetition rate as the FMS gateways do not support to send requests to the vehicle.

The challenges they see are:

- How to meet the increasing requests from groups, 3rd parties, customers especially for E-Vehicles in an adequate time and in a standard way?
- How to become independent from the in-vehicle bus system?
- How to guarantee the vehicle performance and safety?
- What are the legal requirements in the future and how to fulfill them?
- With FMS-Standard?
  - For data needed in the vehicle for other 3rd party systems
- With a standard API at the Back-end of the OEM (rFMS)?
  - For data needed in Fleet Management Systems at the back-end systems of customers / 3rd parties
  - Independent from the in-vehicle bus systems
  - Use of already existing (OEM) platforms in the vehicles
  - Short time from request to availability possible
- With a standard API in the vehicle?
  - For data needed in the vehicle for other 3rd party systems
  - Independent from the in-vehicle bus system (not only SAE J1939)
  - Short time from request to availability for data needed in the vehicle

The really challenging factor is that no standards exist for EV trucks that means the market will be provided with proprietary signals from each brand that have to be interpreted and to show a consolidated picture in a mixed fleet of EV trucks will be difficult.

Truck OEMs
They have not seen that the EV datapoints specified in the FMS/rFMS standard cover trucks, just buses.

DOITS Forum
It seems like most, if not all specifications in the EV FMS/rFMS standard are O-marked i.e. "Optional" that means it is probably a long time until they will become Mandatory.

Another important issue is to off-load the on-board system through moving from a pull to a push method i.e. the users of the data specify what they need with what frequency and the system will push the data to a server. Today it is a Q&A solution.

To read more details see enclosed presentation.

4. Cold chain – Introduction of Thermoking and discussion on challenges in the cold chain

Thermoking's history was presented that explained the various steps the company have been taking over the years to meet new requirements.

An issue that was brought up is why it is necessary to have like 6 SIM-cards in a trailer/truck unit. They are used for trailer communication, toll collection as well as mobile phones, iPads etc. Could it be a benefit to combine them all in one device? Could they even be off board instead of in-vehicle?

DOITS Forum comments
The key is to reduce the cost for data volume and comments were that each SIM is connected to a specific service that the customer is willing to pay for separately.

For more information see enclosed presentation from Thermoking.

5. Status of the situation for the Truck and Trailer VIN handshake

DOITS addresses the two-way exchange of the correct 17-character VIN number i.e. Trailer VIN to Truck as well as Truck VIN to Trailer.

Both Krone and Schmitz Cargobull do deliver their trucks with the full 17-charcter VIN today.

Schmitz Cargobull
Quality of the VIN data in the trailer EBS is crucial to be useful and Schmitz Cargobull presented the summary from their existing Service Data and their findings are:

- *37% have the correct 17 characters trailer VIN*
- *41% have the shortened 7 characters VIN*
- *22% have characters in the field for the VIN that has no connection to the standardised VIN at all*

SC proposed that DOITS should inform and motivate smaller trailer manufacturers to implement the full 17- character VIN in their new trailers when delivered to their customers.

SC are looking into how to include a check forcing service engineers to tap in the correct VIN when using their diagnostic tool to be able to sign out from the tool.

One advice was that the Trailer EBS system should via CAN give a hint that the 17 character VIN is not correct. It is easy to check against the visual VIN on the trailer and compare that.

Traton
Can the trailer OEMs lock the field against changes - and the answer was yes.

Truck VIN to trailer is an issue that has been on the agenda before and the reply from the Truck OEMs why it is not implemented is that it is not prioritised internally as the business case is not visible enough.

In practise the standard is there with "ISO 11992-2:2023 Road vehicles – Interchange of digital information on electrical connections between towing and towed vehicles".

Decision
Jan U will write a document as a platform for motivating truck OEMs to implement the functionality to deliver the truck VIN to the trailer EBS system.

Commercial as well as legislative/ safety factor should be included.

PROPOSAL OF SUBJECTS AT NEXT DOITS MEETING

1) Presentation of examples of how standards are created and implemented
2) Freight visibility shippers to carrier platforms e.g. Project 44
3) Freight exchange
4) Tachograph issues – invite one of the major tacho suppliers
5) Decarbonization – CO2
6) Certifications in the Cold Cain

Next DOITS meeting

The normal schedule of 2 meetings per year will be kept and next meeting is planned to end of October/ beginning of November 2023.

Jan U will come back with an outlook call with the next meeting date.

2023.06.02

Jan Unander
Moderator, Coordinator
DOITS