

## **DRAFT Report**

### **21<sup>st</sup> meeting of the GRVA informal working group on Automatically Commanded Steering Function (ACSF)**

Venues: Hangzhou (China) – for details see ACSF-21-01  
Chairman: Mr. Hiroshi Morimoto (Japan) and Mr. Christian Theis (Germany)  
Secretariat: Mr. Rudolf Gerlach (TÜV Rheinland)  
Duration of the sessions:  
Wednesday, 16. January 2019: starting at 9:00 a.m.  
Friday, 18. January 2019: ending at 12:00 p.m.

Note: Any comments or documents relating to this meeting should be sent to the secretariat ([gerlach@de.tuv.com](mailto:gerlach@de.tuv.com)) in e-format, so that meeting documents can be made available to the UNECE secretariat for publication on the website of WP29.

#### **1. Welcome and Introduction**

Chair (Morimoto-san) – opens the session and thanks China for hosting the meeting.  
China – pointed out, that they are Contracting Party of the 1998 Agreement and highly interested in the development of regulations for AV.  
Spokesman of OICA-CLEPA (hereinafter called OICA) – asked the Chair, what the target of the meeting is and what the outcome should be.  
Chair (Morimoto-san) – explained the agenda. Furthermore the ToR should be amended to extend the mandate of the group by one year to be able to finalize the work to develop a regulation for low speed application of a lane keeping systems and may be extended to other application later.  
OICA – asked, if it is really concluded by to limit the work to low speed application?  
Chair (Morimoto-san) – as mentioned in the report of the 20<sup>th</sup> session it has been concluded to focus on low speed application first.

#### **2. Approval of the agenda**

Document:  
ACSF-21-02 (Chair) Draft Agenda of the 21st session  
ACSF-21-02r1 (Chair) Agenda of the 21st session

Revised Agenda ACSF-21-02r1 adopted. In addition the Chairman of the IWG VMAD will give a presentation about the ToR of the new group.

It was concluded to use informal document ACSF-21-03 as a basis for the discussion during the session.

#### **3. Adoption of the report of the 20<sup>th</sup> meeting of the IWG on ACSF**

Document:  
ACSF-20-11 - (Secretary) draft report 20<sup>th</sup> session

Adopted without modifications.

OICA – asked, if the report could not be extended by a summary of each topic discussed.  
Chair (Theis) – it was OICA's wish to have more or less a protocol of the discussion and not just a summary to know what has been discussed and not just what has been concluded. The summary of

the discussion is the working document and status report which will be prepared by the Chair for each GRVA session.

#### 4. Discussion on requirements for an automated lane keeping system

Documents:

ACSF-21-03 - (Germany) consolidated version - proposal for technical require..\_

ACSF-21-03r1 - (Germany) consolidated version - proposal for technical require..\_

ACSF-21-04 - (CLEPA-OICA) consolidated version with Industry inputs V1

ACSF-21-05- (OICA-CLEPA) ActivationMatrix V6 (Industry)

ACSF-21-06-(VMAD) VMAD-01-07 Q&A on VMAD (3)

ACSF-21-07 (OICA-CLEPA) Manual Control Matrix V3

ACSF-21-08r1 (OICA-CLEPA) Driver initiated Transition Demand and System reaction rev1

Discussion on activation and deactivation.

Chair (Theis) – why should we allow deactivation by the driver input for a Level 3 system? It should only be possible through use of the button used for activation.

OICA – this is a new proposal. It does not align with our philosophy. We are concerned that the driver will not have their hands on the steering control when they press the button. It is also unnatural when we know that in an emergency, the first thing is to press the brake pedal.

Chair (Theis) – it can only be possible to activate with hands on the steering wheel, so it must be possible to have hands on when you deactivate. Using a button makes the responsibility clear.

OICA – would like to know who supports the proposal?

UK (DK) – we do not have an agreed position, but we can sympathise with the view of the Chair. It is a crucial question of liability. An active button to take back control gives a clear indication that there is a willingness to take back liability.

EC – I have a similar position to UK. How do we proceed with the text? There is still the question of what is activated and what is deactivated? We can come back to this discussion when we agree these terms. I was also confused as the OICA proposal is based on different text. Need to be consistent on terms as have used deactivated and off mode. Is activation by a button and no other options?

Canada – similar to UK, we do not have an agreed position on this issue. In general, we wish to provide flexibility for manufacturers whilst the technology is being developed. I believe there is merit to the Chair's proposal, but will need time to formulate a position. An activation should be a deliberate action of the driver.

OICA – we would need to change the operation of our current developments to remove any direct connection between the controls and the brakes / steering.

Chair (Theis) – we are talking about a future system, we do not need to be limited by the technology of today's systems.

Canada – those with systems that currently allow the driver to intervene with the brake pedal would be prohibited. It would be prudent to permit deactivating the system via the brake pedal. People currently do that today naturally.

UK (DK) – the conversation illustrates why we need to move away from the idea of Level 3, as this creates confusion. This is really Level 4 as the driver does not need to monitor the road. The issue is about how we hand back control to the driver. If the driver accidentally presses the brake or hits the steering wheel, that cannot be seen as the driver taking back control. Question to industry: would your current systems respond to an accidental press of the brake pedal?

EC – we should agree what we mean by activation and deactivation. To go to fully manual driving, you may need some transition.

OICA – support a dedicated control for deactivation of the system. Need to make a distinction between deactivation and overriding. Understand that the Chair does not support allowing overriding as it is not reliable. In response to UK, we are still on a Level 3 system. For the UK

example, we have driver monitoring to assess whether or not an action is intended. Have shared a matrix of scenarios with the Secretariat.

UK (DK) – for my understanding, industry is stating that the text currently permits the system to differentiate between intentional and unintentional action? In terms of liability, the driver has to willingly resume liability, rather than this being determined by the system. Do not believe there is a concern about allowing the driver to override, but as the vehicle is in control, it must choose whether or not to accept the driver override and the system still has liability.

Chair (Theis) – the only case where it would be allowable for the driver to steer manually would be in an emergency case where the collision can only be avoided by steering. Could accept driver input on the steering in an emergency case only. Do not believe overriding should be allowed in a Level 3 system.

EC – these are valid questions.

OICA shared a matrix on what happens following various intentional driver inputs.

Chair (Theis) – what happens in the case of unintended inputs? Also, why does kickdown override the system?

OICA – normal behaviour of driver is not to hit kickdown without hands on steering wheel.

EC – I think the table helps. We need to regulate for how long the driver is allowed to override. What is the view in terms of liability with regards to override? In my view, the vehicle will still manage the situation.

OICA – yes, as long as the system is driving, we are liable.

Chair (Theis) – will these overriding possibilities be consistent across manufacturers?

OICA – yes, we need harmonised requirements.

Chair (Theis) – how do we distinguish unintentional actions?

OICA – this is done by driver monitoring.

UK (DK) – the crucial question is are we content for the vehicle to decide when the driver has resumed liability, as it is the vehicle assessing if an input is intended or not.

OICA – in some other UN regulations, we have separate paragraphs for activation/deactivation and overriding.

EC – industry Excel file suggests that pressing the button results in a transition demand and so the system is not immediately deactivated.

Chair (Theis) – we need to agree the principles. 1<sup>st</sup> option to deactivate is that the driver presses the button and it is immediate. 2<sup>nd</sup> case is a driver input on a control and this results in a transition demand before the system is deactivated.

Canada – what happens if the driver slams on the brake?

OICA – the transition demand can vary in time (can be as short as 0.1s). May need a transition demand if the driver uses a dedicated control.

EC – there needs to be a transition demand to ensure the driver is ready to takeover.

Chair (Theis) – if there is an input on the accelerator whilst holding the steering wheel and there is a transition demand during which you collide with the vehicle in front, who is responsible? I can accept that the manufacturer is responsible in this case.

OICA (JL) – there is only one way to go to manual control. There has to be transition demand, even if it is for a very short duration.

Canada – support a transition demand if the driver only inputs for either lateral or longitudinal control (not both). Do not believe it is sufficient to say that the driver has resumed lateral control if they are just holding the steering wheel without making an input.

OICA – this is why we have two columns in our table to distinguish between steering input or no input whilst still holding the control.

Chair (Theis) – if you have a clutch and therefore manual gearbox, you don't have kickdown. Also, we still do not know what is unintended.

EC – still would like to clarify if we always have a transition demand, even if the driver operates the switch. I would support this idea.

Canada – would also support.

Germany – still have the concern of who is responsible if the driver overrides the steering and there is a transition demand.

Canada – liability still rests with the system as the driver has not resumed full control.

Chair (Theis) – does the system respond to the driver input on the steering control, or just start a transition demand?

OICA – when there is a clear steering input from the driver, the lateral control is directly under the control of the driver. During the transition demand, the longitudinal control is still under the control of the system. For the accelerator pedal, the system only reacts if there is kickdown.

Chair (Theis) – how does the driver know they need to use kickdown to override? Also, what happens if you are too close to the vehicle in front?

OICA – do you wish an accelerator input to initiate a transition demand?

Chair (Theis) – does kickdown just initiate a transition demand or does it also fully accelerate the vehicle?

OICA – of course there are safe guards as the radar and safety systems are still active.

EC – the transition demand shall manage this case and avoid accidents during this period.

Chair (Theis) – it was mentioned that longitudinal control was given back and so it should accelerate hard from kickdown.

Germany – it feels like we are going back and forth with the driver overriding and the system respecting or not their input.

Canada – we are overcomplicating things. If the driver slams the brakes, this is a clear intention to get the control back. In this instance, I understand that lateral control is still done by the system and a transition demand is given.

UK (DK) – if there has been a steering input, the system is deciding whether or not it is intentional. If the steering is such that the vehicle would move into another lane, the system has to decide if this is intended. The algorithm for determining intentional versus unintentional will vary by brand and is therefore not clear to the driver.

OICA – this is a good debate. ALKS will detect intentional steering inputs and continue to operate until the edge of the lane markings.

EC – this comes back to the debate of when does the transition demand starts and ends.

OICA – you leave the ODD when you cross the lane markings, and so this will end the transition demand and the function.

Chair (Theis) – the situation is uncritical when the driver first makes an input, so we can ignore the request and issue a transition demand.

EC – brake pedal request by the driver does not create any safety issues, only the input on accelerator pedal and steering.

Chair (Theis) – a single input should just initiate a transition demand (ignore the input until they take over).

Germany – can we use pressing the deactivation button with taking over manual control?

OICA – this is a new proposal to be reflected on. We had a similar discussion on the subject of e-Call.

Canada – I understand that pressing the button gives both longitudinal and lateral control immediately back to the driver.

UK (DK) – we have not defined what is meant by “taking back manual control”. This is a new system and so we need to consider if this is the approach we want for all future automated driving transitions.

EC – we also need to keep in mind that it is simple to restrict to <60km/h, but we should think about the future case.

Chair (Morimoto-san) – there are three issues; intentional and unintentional input, do we allow overriding, and how does the transition demand end. Do we agree that there must be a transition demand before a deactivation? Yes, agreed.

UK (DK) – what about false positives for hands-on detection?

Chair (Theis) – we do not need the Excel table. Any input (pedal or switch) will result in a transition demand.

OICA – need to keep kickdown as an option. Kickdown is defined in Regulation 81. It can be used to differentiate between intended and unintended.

Chair (Theis) – can we apply similar logic to the brake pedal depending on how hard the driver presses?

OICA (JL) – kickdown is normally used in an emergency situation, hence the differentiation. As a compromise, we can issue a TD with the accelerator pedal pressed, but only override when you reach kickdown.

Chair (Theis) – for a Level 3 system, there can only be an intention to drive manually. Overriding is not possible.

NL – agree that it is too complicated. It is either on or off by the button. Steering or pedal input triggers a transition demand. If it is an emergency situation, the transition demand can be very short. We are talking about an issue with a vehicle coming quickly from behind, but then it is not a very safe system and we need sensors from the rear.

OICA (JL) – when I am in an emergency situation and I am stressed, I have to push the button?

Germany – that is my understanding, because the system can cope with all situations.

Japan – support the table presented by OICA to allow overriding by driver input.

EC – also support. We are dealing with machines and humans should always have control.

UK (DK) – also support allowing override. Further, a transition demand should finish with a button press to confirm. If there is an object that the system hasn't detected, the driver has to be able to steer and avoid.

Chair (Theis) – an emergency situation has to be detected by the system, and during this, it can be allowed for the driver to make a steering manoeuvre.

UK (DK) – what happens in an emergency situation that the system has not detected? Surely the driver should still be able to override?

Chair (Theis) – the driver does not have to observe the road. In the UK example, the driver sees an unexpected event, they operate the steering and pedal, which results in manual control.

UK (DK) – if the driver steers and brakes in this example, they should not have to accept liability as it is due to a sensor failure.

Chair (Theis) – this scenario should not occur due to redundancy to ensure the system can reliably detect objects.

UK (DK) – the sensor has not failed, but there has been an error in the interpretation.

NL – do we have trust in the system? If we say the driver can do a secondary task, then the system must be reliable. For the UK example, there would be a transition demand, which is almost immediate if they are holding the steering wheel and pressing a pedal. Also, the driver may make the wrong decision as they are not fully aware.

NL – do not support allowing the driver to override the system.

Chair (Morimoto-san) – with steering and braking control, the transition demand is very short and the driver has quickly taken over control.

OICA – you are correct. In reality, we will not have instantaneous action on the steering control and pedal at the same time, so the transition demand will always exist for a very short time.

UK (DK) – I understood the table to show the initiation of a transition demand and there is a separate table for ending the transition demand. We are all agreed that there needs to be a transition demand. You need conditions of entry and conditions of exit for the transition demand.

EC – I would have started with braking input only. Do we allow an override in this case?

NL – whether it is braking, steering or accelerator, it should be a transition to give control back to the driver.

Chair (Theis) – what is the order for taking over manual control?

Canada – I don't think it matters because every driver is different. The system should be able to cope with steering wheel and then pedals, or the other way around. There needs to be a transition demand before the driver takes over manual control.

Chair (Morimoto-san) – we still need to define what is meant by take-over manual control, so invite industry to present their thoughts.

OICA – manual control means the driver has control over both the longitudinal and lateral control. We discussed with the UK there are situations where this criteria allow is not sufficient, for example, when the transition demand is very short in duration. In this case, the UK would request an extended transition demand to prevent them bearing liability. We will discuss further tonight.

UK (DK) – yes, that broadly confirms the situation. The first matrix (21-05) is just about how you enter a transition demand. The second will be about how we exit a transition demand.

Chair (Theis) – some drivers may keep a hand on the steering wheel and be touching a pedal without intending to take-over manual control. However, it should be confirmed by driver monitoring.

OICA – in this case, it would create a transition demand requesting a confirmation by the driver.

#### ACSF-21-07 (OICA)

Chair (Theis) – kickdown and brake pedal is manual control? I would not consider the driver to be in control!

OICA (JL) – the intention of this matrix is to say that there are two inputs needed to say the driver is in control. If you brake and have kickdown, you must be awake.

Chair (Theis) – accelerator pedal and kickdown is manual control? This is only one input.

OICA (JL) – this is two stages.

OICA – the parameters that define taking back manual control are the foot controls and the steering wheel. We have a fully developed strategy in document 21-04.

Chair (Theis) – my colleague from the UK mentioned that we need to define “take-over manual control”.

OICA – we use driver monitoring in combination with two actions by the driver to assign “take-over manual control”.

Chair (Morimoto-san) – 21-07 is quite confusing, as it doesn't align with what you explained about the driver needing to have lateral control.

UK (DK) – reiterate the view of Morimoto-san. Holding the steering control should be a prerequisite for taking back manual control. The matrix in 21-07 needs further work, either here or offline.

OICA – we can work on improving the matrices tonight, or do this in a smaller group.

Chair (Theis) – support doing this in a smaller group. The manual control matrix must be combined with the driver monitoring & presence detection.

Chair (Morimoto-san) – prerequisite for manual control is both longitudinal and lateral control.

EC – yes, both of these and checking that the driver is aware of the environment.

OICA – agree it should be three criteria – lateral control, longitudinal control, and confirmation by the driver monitoring system.

Chair (Morimoto-san) – in summary, we agree there must always be a transition demand before deactivating the system. As Olivier mentioned, there are three parameters for assessing if the driver has taken over control.

## **Day 2**

### Small group presentation (OICA)

OICA (JL) talked through the presentation showing how to initiate a transition demand and how to exit the transition demand.

OICA (JL) – if the driver tries to cross the lane marking during operation, the LKAS will work to keep them in the lane.

UK (DK) – this is the small group's understanding of OICA's position. We now have clarity on what is being proposed, but we did not say that the group agreed last night. My concern is that the end of the flow chart states “manual control”. It is simply when the automated system has deactivated. We now need to establish when the driver is in control. From a UK point of view, as the driver can disengage from the driving task, the system must keep the occupants safe until the driver has retaken control.

Chair (Theis) – we want to ensure that the driver is controlling the vehicle. Do we want to allow the driver to influence the function when they are not controlling the vehicle? This is what is proposed here. Do we want to allow a driver input to influence the function?

EC – the main task yesterday was what triggers a transition demand and how it ends. The residual system control was not fully discussed.

OICA – this is not the OICA position, this is an analysis of the state play in the group. In response to the UK comment, agree that we cannot regulate the driver, however, if we have two indications that the driver is acting on the controls, we should presume the driver has taken over.

Chair (Theis) – we should not differentiate between intended and unintended. Do we want the support to deactivate if the input is unintended? For me, any input (intended or unintended) can only trigger a transition demand and the system continues to support.

UK (DK) – a transition demand could take place in milliseconds and it is then assumed that the human driver is fully in control. A human cannot be switched on in this short a time. We still need to have a conversation on to what extent the system supports the driver and how it establishes that they are fully in control again.

Chair (Theis) – if there is a failure (e.g. the camera does not detect the lane markings), I expect a transition demand, but the lateral and longitudinal control is still being done by the system.

OICA – from the concern of the UK, there are some circumstances where the transition demand is only a few milliseconds, they are not situationally aware. The UK would like a number of seconds to allow the driver to become aware?

UK (DK) – did not specify that it has to be time, but there has to be a way to establish that the human is properly in control of the vehicle. There could be instances where it is milliseconds if the driver wants to properly take control. However, there could be a panic reaction or unintended inputs.

OICA – believe we discussed at the end last night. This concern does not exist in the case of intentional driver inputs.

UK (DK) – yes, it does say intentional driver input in the first box. Today's conversation needs to be about how we determine what is intentional and what is unintentional. However, in a panic situation, you can have intentional inputs but the driver is not in control.

OICA – the system assumes that any detected input (above a certain threshold) is intentional.

Chair (Morimoto-san) – the UK concern relates to the ending of the transition period?

UK (DK) – the transition demand can only end when it is established that the driver is in control.

At the moment, each manufacturer is free to interpret whether a driver input is intentional, and if it establishes two of these, it switches off and assumes the driver has full manual control.

Chair (Morimoto-san) – the second slide tries to address this concern by requiring two inputs along with holding the steering wheel and a confirmation by the system or driver. Is the UK saying something is missing? I also have a question to OICA; does confirmation by driver mean pressing the button?

OICA (JL) – we have confirmation from the driver monitoring system, but we have not yet defined how this is achieved. The last two boxes (confirmation by driver or system) should cover the concern of the UK.

Chair (Theis) – if the longitudinal and lateral support are deactivated as a result of driver inputs, why does the driver have to wait until it is confirmed that they are available?

EC – this comes back to the question of what support is given during the transition phase, as this has not been discussed yet.

Chair (Theis) – to avoid the question of intended versus unintended, I am in favour of full system support until the driver has taken over manual control.

UK (DK) – we would need to define what any input is, similar to the discussion on intended versus unintended. We also need to establish what support is offered during the transition, and finally how the system establishes that the driver is in control.

Chair (Theis) – for me, the inputs are steering torque, pressing the accelerator, pressing the brake pedal, or pressing the switch.

OICA – to determine intentional, it is clear if the driver presses the button. There is a low-level sensitivity for the brake pedal. There may be a way to discriminate for unintentional for a steering input. Currently we state 50N from B1; this is probably too high. For determining when the driver has taken control, we have a lot of safe-guards, but at the end of the day, the driver can always cheat the system if they want. We cannot regulate the driver.

Chair (Theis) – the solutions we are discussing have influence on the technology you can use. With mechanical steering, you have to action the driver input, whereas this is not necessary for steer-by-wire. In my opinion, we stop with mechanical steering at Level 3.

OICA (JLR) – article 8 of Vienna Convention requires that the driver must at all times be able to control the vehicle.

EC – during the transition demand, we should offer B1 support for lateral control.

OICA – yes, this is what we meant by safe-guards, as well as AEBS.

EC – is there a way for the driver to request to stay in the automated mode?

OICA – in the case of a transition demand initiated by the driver and they then change their mind, this is not covered by the text.

Chair (Morimoto-san) – what happens if the driver stops inputting on the lateral control during the transition period?

OICA – the support is what remains after B2 is activated, so this means the assistance system (e.g. B1).

Japan (Kojima-san) – if there is a driver input, does the ALKS lateral input continue during the transition demand?

OICA – I would say that we have a B1.5 offering support in the middle.

Chair (Theis) – this is the last meeting of ACSF as the mandate ends. GRVA discussion will be about extending the mandate or handing over to a new group.

CLEPA – we have proposed wording for new ToR (to be discussed tomorrow).

Chair (Morimoto-san) – back to the discussion, we have the three points raised by the UK to discuss.

OICA – in the scenario where a driver gives an input on the steering wheel and then removes their hands, the system will take back lateral control, but the transition demand still remains.

Chair (Theis) – we have talked about overriding at Level 2, which we then stopped at Level 3. If we allow overriding for a Level 3 system, then we are switching from Level 3 to a Level 2 system.

EC – I don't think this contradicts with the OICA statement. Overriding is the wrong term to use for Level 3, you just account for driver input. The main principle is that humans have priority over machines. The OICA situation is still a B2, but the control strategy may be slightly altered.

Germany – the difficulty is we can say B2 is still active, but it may not be able to physically handle the situation, for example, if it is a severe steering input and we cross the lane markings.

Chair (Theis) – example; we come to a patch of ice and we start a transition demand. The driver reacts and immediately applies the brake and the vehicle becomes unstable. How can these situations be handled? This is why I propose the system does not respond to any driver input until it is sure that the driver is ready to take over.

OICA – the ESC is still active to keep the vehicle stable. There is no increased danger because of the transition phase.

Chair (Theis) – if the driver presses the brake whilst the system is reducing speed under the control of ESC, the vehicle will now become unstable.

Chair (Morimoto-san) – what happens if there is a driver input that will cause the vehicle to leave the lane?

UK (DK) – we also need to start discussing time periods for the transition. What duration is required for the driver inputs?

OICA – it can be between milliseconds and a few seconds.

UK (DK) – what if there are two inputs at the same time?

OICA – doubt this will ever happen.

EC – taking the example of an icy road. What if there is a situation that is dangerous and hasn't been detected by the system? The driver should always have priority as a principle.

Chair (Theis) – we have the same views, but I fully believe in the systems and that they can fully cover the situations. If you want to make the situation better, you need to be aware. I see more problems if we allow any reaction due to a driver input.

OICA – we are reaching the boundaries of what we can regulate and going into the realm of WP.1.

UK (DK) – the crucial item is missing is how the system is sure the driver is ready to take control. The OICA proposed solutions so far do not give us confidence.

OICA – this is covered by the steps outlined; two driver inputs, hands on the steering wheel, and the driver monitoring check.

UK (DK) – looking to understand if there are more intelligent ways to assess the inputs to ensure the driver is ready.

Chair (Theis) – what happens with an unintentional input? Does this start a transition demand?

CLEPA – no, it does not. We have the ability to filter a certain number of inputs. We will take away homework to define the limits for unintentional / intentional.

UK (DK) – those thresholds would still not be sufficient if we had two simultaneous inputs.

OICA – we can agree to the homework on unintentional / intentional.

Japan (Kojima-san) – if the driver is pressing a pedal whilst holding the steering wheel, but not providing an input, would that then lead to an MRM?

OICA – holding the steering wheel without an input on a straight road can be considered as a second input (not the case if the vehicle is navigating a curve). Similarly if the driver slams on the brake, this can be detected as clearly intentional driver command and so we can assume the driver wants immediate manual control.

UK (DK) – you mentioned speed and force on the pedal; we need a driver readiness metric, which combines inputs like those.

Germany – support the UK statement.

OICA – we had a discussion with the UK about the confidence in using a button to confirm the driver is available. Wish to reach the same level of confidence with the driver monitoring system, which is our homework. Need to remember that we are here to develop the regulation to ensure the minimum level of safety and not to define the function.

Germany – can only support the principles on the slides if an unintentional input also triggers a transition demand, as it alters the vehicle dynamics.

Paragraph 2.5.4.2. (equation for distance to the front):

OICA – we did not have time to come to an agreed position.

Paragraph 2.3.2.1.

NL – what is the rationale for the 3.65m?

OICA – need to check for consistency with the value used in B1.

ROK – what is the typical road width in Canada?

Canada – good question. Each province in Canada has its own infrastructure criteria.

ROK – we would like to consider the worst-case scenario.

Canada – it sometimes gets lost that not everyone operates under the 58 Agreement. There are commonalities, but there are some minor key differences, such as those between provinces.

Germany – can support the principle of the UK to monitor the three lanes. In response to the comment from Canada, perhaps we move the lane width to the test section.

Installation:

OICA – should be “detection system”, no “visualisation” to be technology neutral.

UK – this is okay.

NL – do we need to go into this level of detail? The manufacturer should declare the minimum when it leaves the factory. We should require self-monitoring, which means this is not required.

CITA – this information is useful for repairing the vehicle.

UK – need to check the worst-case when approving the vehicle.

Germany – the UK proposal is reasonable, but also understand the view of NL.

UK (DK) – the text in other places refers to “visualisation system”, so need to be consistent.

Chair (Theis) – need to clarify that 2.5.7. is the minimum detection range.

NL – should not mention a specific value for the deterioration, it should just be based on the values declared by the manufacturer.

Chair (Theis) – what about the influence of the object? Have heard that the colour of the vehicle being detected has an influence on the detection range.

CLEPA – this can be included in the specification for the vehicle.

UK to work with Canada to clarify the text of their proposal.

Note: need to include installation, ageing, and environmental factors in the declared detection range. Need to also include text on the principle for the report.

Paragraph 2.6.1.

NL – what happens if the driver moves the seat into a different position?

OICA – this can be done with the driver monitoring.

UK – do not believe driver monitoring is sufficient to detect out of position. Why are the values higher for both leaving the seat and unfastening the seat belt?

OICA – there needs to be time for the system to confirm that the driver has left the seat or unbelted.

Germany – “detected” covers the system confirmation time, so do not need any time. Also, why are we using one value for both?

OICA – driver availability is done by a combination of systems, including the driver monitoring, seat belt, seat sensor, etc.

EC – what is the sequence in terms of warning and issuing a transition demand?

UK (DK) – we were discussing transitions in milliseconds yesterday, but now we are saying that you need more than a second to detect that they are in the seat.

OICA – this was in the context that the driver was already detected to be in the seat and present. It is not a lack of reliability of the sensor, but for lack of reliability on the driver behaviour. They may adjust their seating position rather than intending to leave the seat.

OICA – removing the seat belt is covered by UN Regulation 16.

UK (DK) – industry’s concern is that 1 second may result in unintentional triggers. What is the minimum time expected by industry?

OICA – we need time to learn about the technology.

UK (DK) – driver in the seat detection exists already.

## 5. Other business

Document:

ACSF-21-09 (Chairman) ToR\_GRVA\_Annex III\_pri

### **Discussion on ToR:**

#### **Day 3**

OICA – do not support removing N and heavier class vehicles from the ToR.

Canada – can have an addendum to state that the main focus is M1 and low speed systems. Any changes to the ToR can stimulate a lot of debate at GRVA.

EC – the change says we focus on M1. Perhaps we can add that that we will look at other categories as a second step.

Canada – agree with EC that we should clearly say what is expected to be achieved in 1 year.

OICA – do not believe there is any additional work required to include heavier classes of vehicle. Support the suggestion of Canada to state that the primary focus is M1, which would allow the inclusion of other vehicle classes if possible.

Chair (Theis) – we agree that we are extending for 1 year and focusing on M1 and low speed highway system. The text can be developed in advance of GRVA rather than worked on at this meeting.

Canada – the main point is that the least amount of changes gives the greatest chance of success at GRVA.

Propose the next meeting to take place in Washington DC in combination with the VMAD meeting.

Chair (Theis) – recommend having a longer meeting in future, as we have seen this week there is still a lot of discussion.

## **6. Schedule for further meetings**

22<sup>nd</sup> ACSF IWG Meeting: April 9<sup>th</sup> to 11<sup>th</sup> Brussels

Venue: FEBIAC  
Boulevard de la Woluwe 46 - 1200 Bruxelles  
Hosted by CLEPA