SLR-HL-25

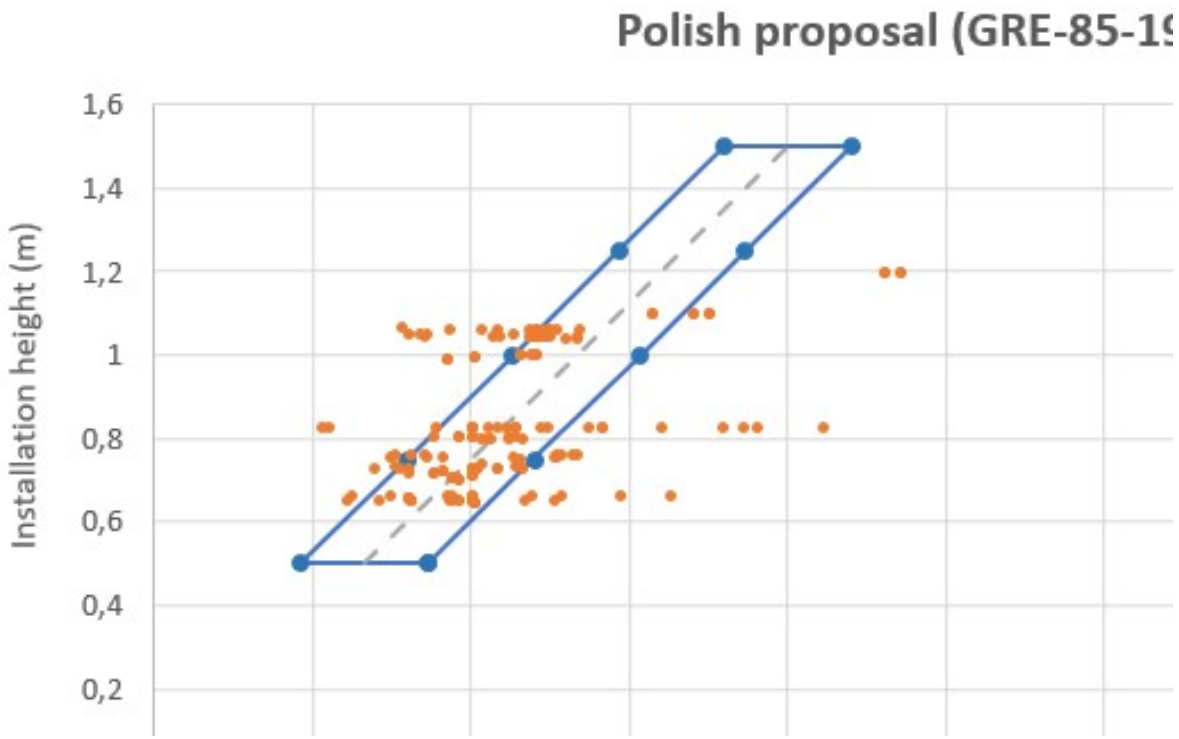
Transmitted by Expert from Poland

SLR special meeting on
“Headlamp levelling”
18 May 2022,

Response for SLR-HL-24

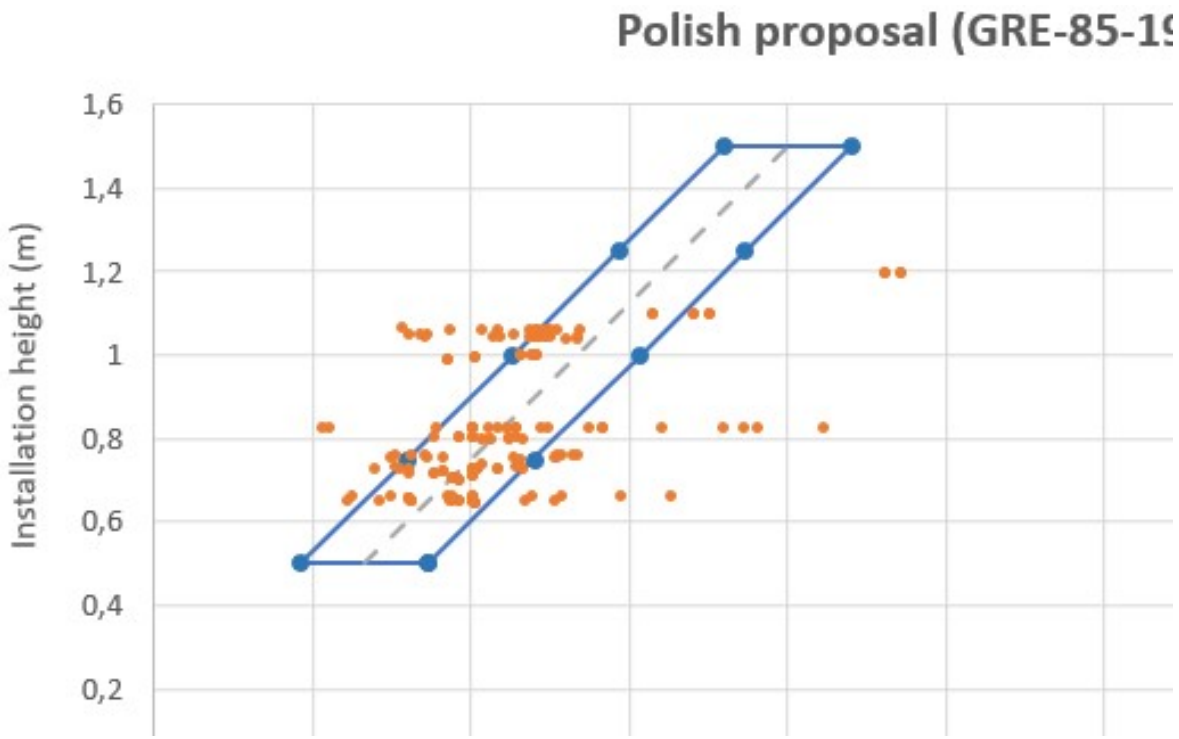
1. The goal of laboratory test proposed by Poland was to check real precision of many existing automatic levelling system used in contemporary vehicles
2. Results presented by OICA have not been standardized in terms of the requirements proposed by Poland
3. There is lack of information from OICA side regarding design of particular levelling system (automatic, what kind, manual ?) and its (potential) performance
4. Results of tests of the vehicles which are prepared to meet existing requirements only (box size) do not inform regarding possibility of technology but only reflect present requirements. It is methodological mistake. Therefore such results could not be treated as decisive for resolving the analyzed issue
5. The results of tests which could be useful and representative for „Headlamp levelling" group should represent technology state of the art. Tested vehicles should be intentionally prepared by manufacturers to meet the higher expectations of vehicle users and safety needs. Such results should be supplemented with information on the details of the design solution and the settings used, e.g. resolution of headlamp levelling compensation or hysteresis value.
6. Statistics and conclusions presented in SLR-HL-24 are misleading because are based on small number of not representative samples, and do not meet the criteria described above

OICA results in relation to the Polish proposal



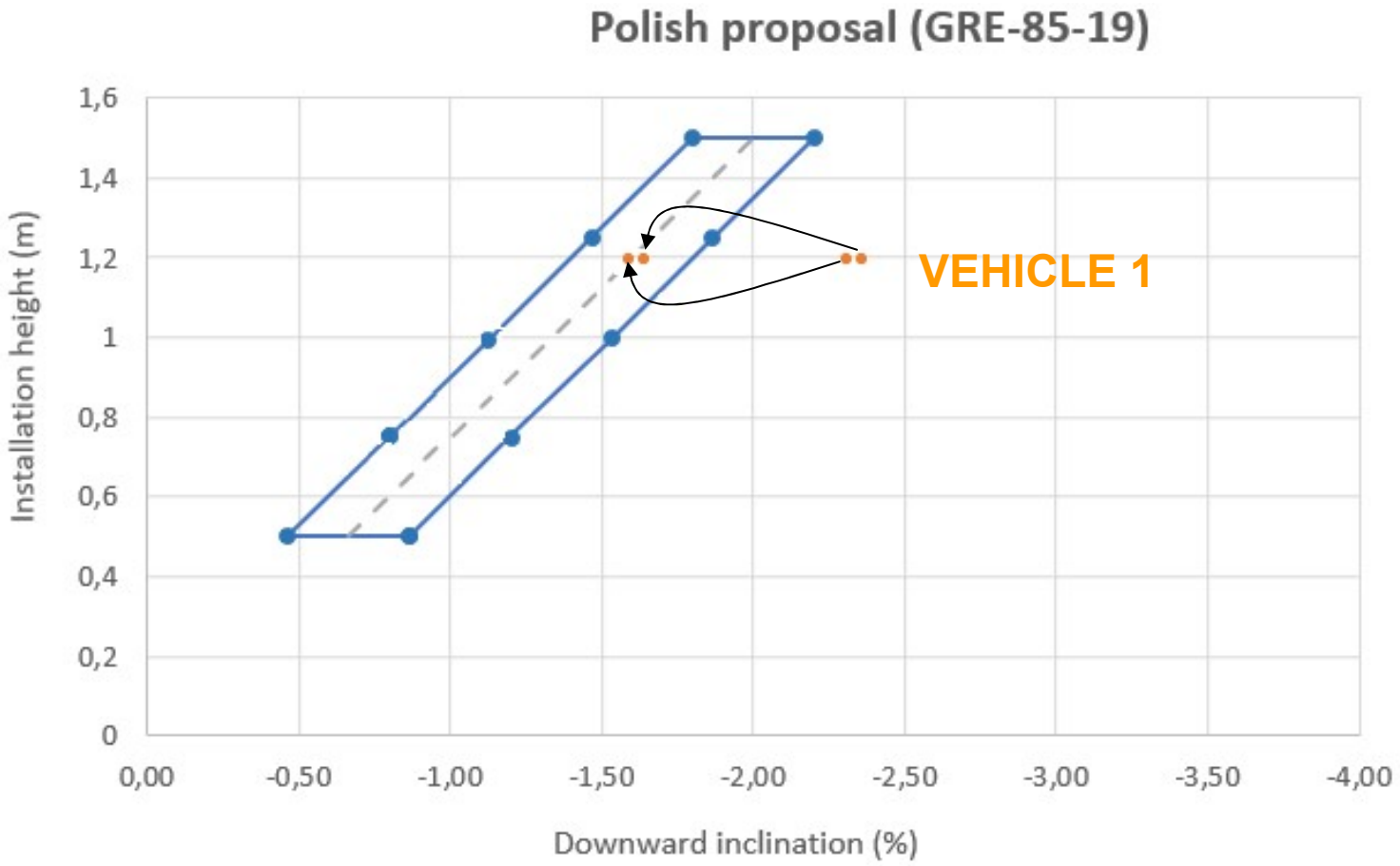
1. There is lack of information which data belong to which individual vehicle
2. There is lack of information regarding design of particular levelling system and its (potential) performance

OICA results in relation to the Polish proposal



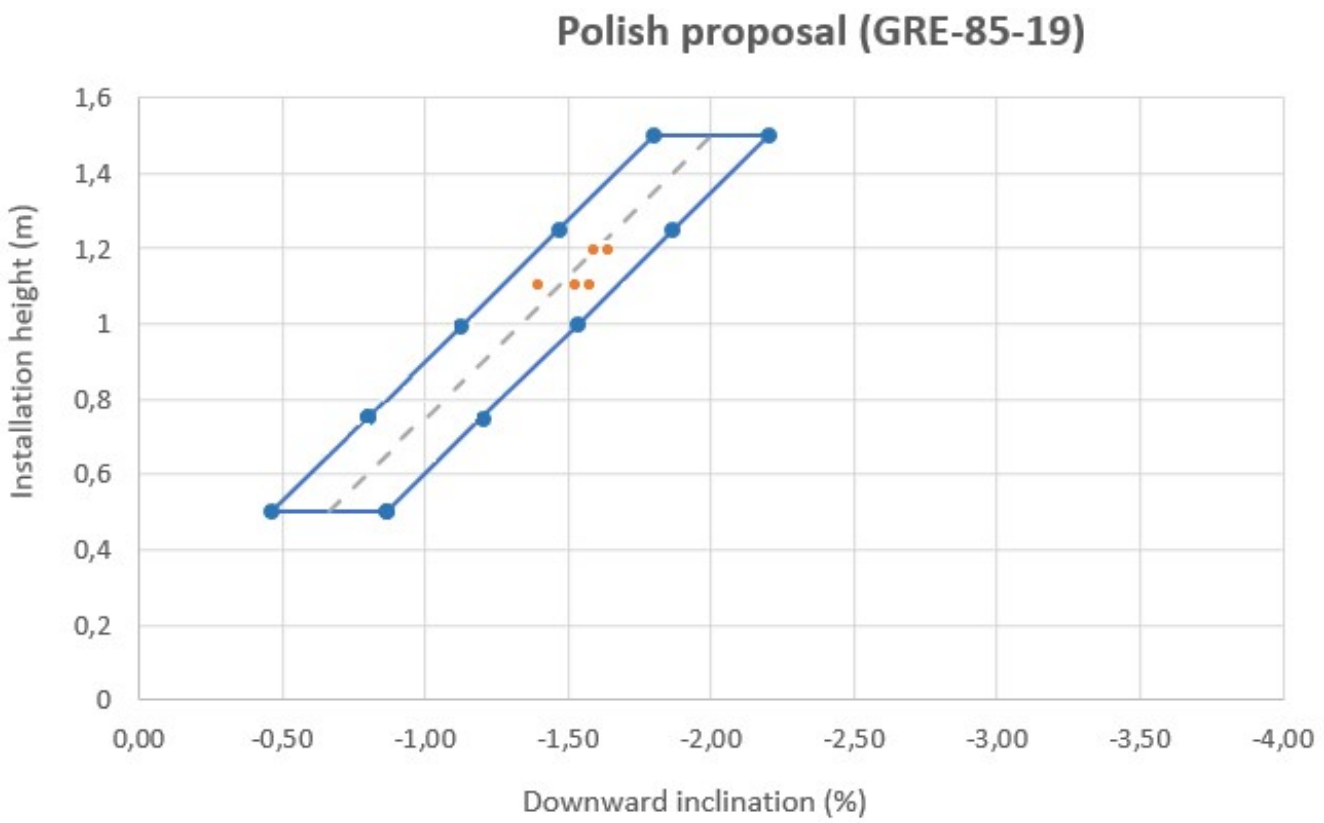
3. The mounting height has no meaning for Polish proposal because does not influence the behaviour of automatic levelling system – width of „box” is the same to any height. The road illumination distance is the same for each height

4. The data are probably not adjusted to the measuring conditions of Annex 5 in regard to proposed by Poland type-approval requirements („box”)



To verify feasibility the data should be presented as above.

In fact it is sufficient to show the difference between minimum and maximum measured values



Above two examples presented by OICA confirm the feasibility of Polish proposal. The rest of the results looks strange as the consequence of the automatic levelling operation – details and independent verification are needed

Resulst of Polsh „true life” simplified tests

Tested vehicles were not specially prepared for test. They were taken from normal traffic. Some were new but with some driving history (10 000 … 30 000 km). Some are older and used vehicles.

The tests were simplified to obtain general impression „where we are” – 2 measuring points only: driver on driver seat and full load back side.

Results:

1. Skoda Superb II 2014 (xenon) **ΔI = 0.3%**
2. Renault Laguna III 2015 (xenon) **ΔI = 0.1%**
3. Nissan Quashqai Tekna+ 2021 (LED) **ΔI = 0.0%**
4. Skoda Kodiaq 2021 (LED) **ΔI = 0.2%**
5. Volkswagen Golf VIII 2021 (LED) **ΔI = 0.1% (***0.1% … 0.5 %*)
   (Remark - for middle loading value ΔI = 0.5% and 0.3 % were observed when for min and max repeatable ΔI = 0.1%)
6. Range Rover Evoque 2021 **ΔI = 0.2% … 0.6%.**
   (*Remark - the system reaction for load change represented delays of not known nature. There was not clear if there was hysteresis result or delay in operation or something else. Technical details of system operation are needed*.)

Conclusions:

- **Most of tested existing automatic levelling systems - even not optimised nor specially prepared - meet the proposed requirements.**
- **It is important to be aware that all tested vehicles were not specially designed or prepared. They were obliged to meet present requirements only (very wide „box" ΔI = 2.5…3.5% (CoP))**
- **Probably after optimisation (modification of software – hysteresis, dynamic reaction, etc.) 100% of tested vehicles would be able to meet proposed requirements.**
- **To verify feasibility of proposed requirements Poland suggest to perform similar test in more carefully controlled conditions. Such tests should be done in open and transparent form by independent body as was proposed in the past.**


TESTING
PROCEDURE