



# Annex 12 Overlays



# Presentation summary

- Recall on how ISO 16505 covers overlays
- Status on how UN R46 Annex 12 deals with overlays vs ISO 16505
- OICA [6th of June](#) proposal



# *Recall of ISO 16505 on Overlays*

- **4.5.13 Definition:**
  - any driving-related visual information added to the original image (such as icons, labels, colored areas, etc.) that modifies it in a way that part of the original information is hidden. Overlays can be partially transparent or totally opaque. Overlays can be displayed temporary or permanently
- **6.2.5 Requirements**
  - Overlays, according to subclause 4.5.13, are generally allowed. Within the required field of vision only temporary transparent overlays are allowed.
- **7.2.5 Test method**
  - Verify by visual inspection that overlays which are displayed within the required field of view as defined in subclause 6.4 are temporal and transparent (not opaque).



# ***Status of UN R46 vs ISO 16505 on Overlays***

- **ISO 4.5.13 Definition is taken over**
- **ISO 6.2.5 Requirements is replaced by :**
  - 2.4 Overlays
- **ISO 7.2.5 Test method is replaced by :**
  - Appendix 1



# Status of Annex 12 on Overlays

## ■ 2.4 Overlays

- Overlays, according to subclause [4.5.13 of ISO 16505:\[201x\]](#), are generally allowed. The maximum total obstruction and overlays shall not exceed the values in paragraph 15.2.4.9.1 and 15.2.4.9.2 of ISO 16505:[201x]
- The test method of Appendix 1 shall be applied.

*Problems faced so far:*

*What information shall an overlay provide?*

*When shall we consider an overlay is an obstruction?*

*Transparency, surface...*

*Where overlays shall be regulated?*

*Required FOV, Monitor defined size, ...*



# ***Status of Annex 12 Appendix 1***

## **TEST METHOD FOR THE OVERLAY AND TRANSPARENCY**

**1. Luminance measurements are made perpendicular onto the monitor at a portion where the overlay is displayed. Use a 1 degree measurement field within the luminance meter (if necessary the manufacturer shall provide for testing purpose a sufficient large test pattern).**

**1.1. Step 1: Determination of the luminance of the overlay**

**Measure the luminance L1 of the monitor with the overlay switched on whereas the camera captures a black object in that area.**

**1.2. Step 2: Determination of the luminance without overlay**

**Measure the luminance L2 of the monitor with the overlay switched off whereas the camera captures a white object in that area.**

**1.3. Step 3: Determination of the transparency**

**Measure the luminance L3 of the monitor with the overlay switched on whereas the camera captures a white object in that area. The following relation has to be fulfilled:**

$$L3 \geq 0,6 * L2 + L1$$



## 6<sup>th</sup> of June OICA proposal

- **ISO 4.5.13 Definition is taken over**
  - Any driving-related visual information added to the original image (such as icons, labels, colored areas, etc.) that modifies it in a way that part of the original information is hidden. Overlays can be partially transparent or totally opaque. Overlays can be displayed temporary or permanently
  
- **ISO 6.2.5 Requirements is replaced by :**
  - **2.4 Overlay requirements within the minimum required field of vision**
    1. Overlays shall display **only rearward** driving-related visual information.
    2. **Only temporary overlays are allowed.**
    3. Overlay surface: Overlay surface shall be measured according to #1.2 Appendix 1 of Annex 12.
    4. Overlay obstruction:
      1. **All overlays shall be considered as an obstruction whatever its transparency.**
      2. Each overlay shall not exceed **2,5% of the required FOV displayed surface** of the corresponding class
      3. The total surface of **all obstructions** shall not exceed **provision of # 15.2.9.4.1 or 15.2.9.4.2 at the same time**



# *6<sup>th</sup> of June OICA proposal on Annex 12 Appendix 1*

## **TEST METHOD FOR THE OVERLAY ~~AND TRANSPARENCY~~**

1. Overlay and any other obstruction surface shall be calculated on screenshots provided by [car manufacturer] displaying all worst cases.