

A black and white photograph showing a person's hand holding a probe connected to a vehicle's undercarriage. The probe is a long, thin metal rod with a coiled cable attached. The hand is holding the handle of the probe, which has a textured grip. The background is a blurred view of the vehicle's undercarriage and some mechanical components.

## EGEA WG2 Meeting - Emissions 24th of January 2018, Brussels



# Agenda:

- **Situation of various countries vs European directive 2014/48 :**
  - Germany:
  - UK:
  - France:
  - Italy
  - Belgium
  - Other countries
- **Initiative regarding NOx measurement**
  - France & Article 65 status:
  - SET2:
  - Germany: New initiative
  - What about a common approach to the commission: new initiatives/products/ procedure
- **Anti tampering topics**
  - Ad Blue tampering
  - EGR valve tampering
  - DPF tampering
- **Remote sensing**
- **Reply to the TNO rapport**
- **e-PTI current status**
- **Other business**



A 3D map of Europe is shown in a light gray color. A dark blue banner with a white border is positioned horizontally across the middle of the map. The banner contains the text "Situation of various countries vs European directive 2014/48" in white, bold, sans-serif font. The map shows the outlines of European countries, with some parts of the map appearing to be cut out or removed, revealing a lighter background underneath.

## Situation of various countries vs European directive 2014/48



## Situation In Germany

1. Reinstatement of tailpipe testing as part of emission testing : Leitfaden 5.01
2. DAKKS : ISO 17025 : maintenance & calibration



# Tail pipe measurement

- **Although the new Roadworthiness Directive 2014/45/EU allows a vehicle to test itself through 'on-board diagnostics' (OBD), this has often not detected the removal of DPFs or the manipulation of the AdBlue control system. Germany has therefore announced that the direct measurement of emissions at the exhaust tailpipe during a periodic technical inspection (PTI) test will be mandatory for all vehicles from January 01st 2018.**
- **What is next?:**
  - **Opacimeter Calibration?**
  - **PN measurement**



## Situation In France



# New NFR 10025: RPM trig and monitoring

- **Oil temperature (LV only)**
- **RPM trigger + monitoring (1st acceleration is the reference)**
- **Rising time and rising slope**
  - LV:  $P \geq 2000$  tr/mn/s (min 2s)
  - HV:  $P \geq 750$  tr/mn/s (min 4s)
- **Execution for real**
  - Smoke temperature monitoring (35 degrees min)
  - (3m heated probe for HV)

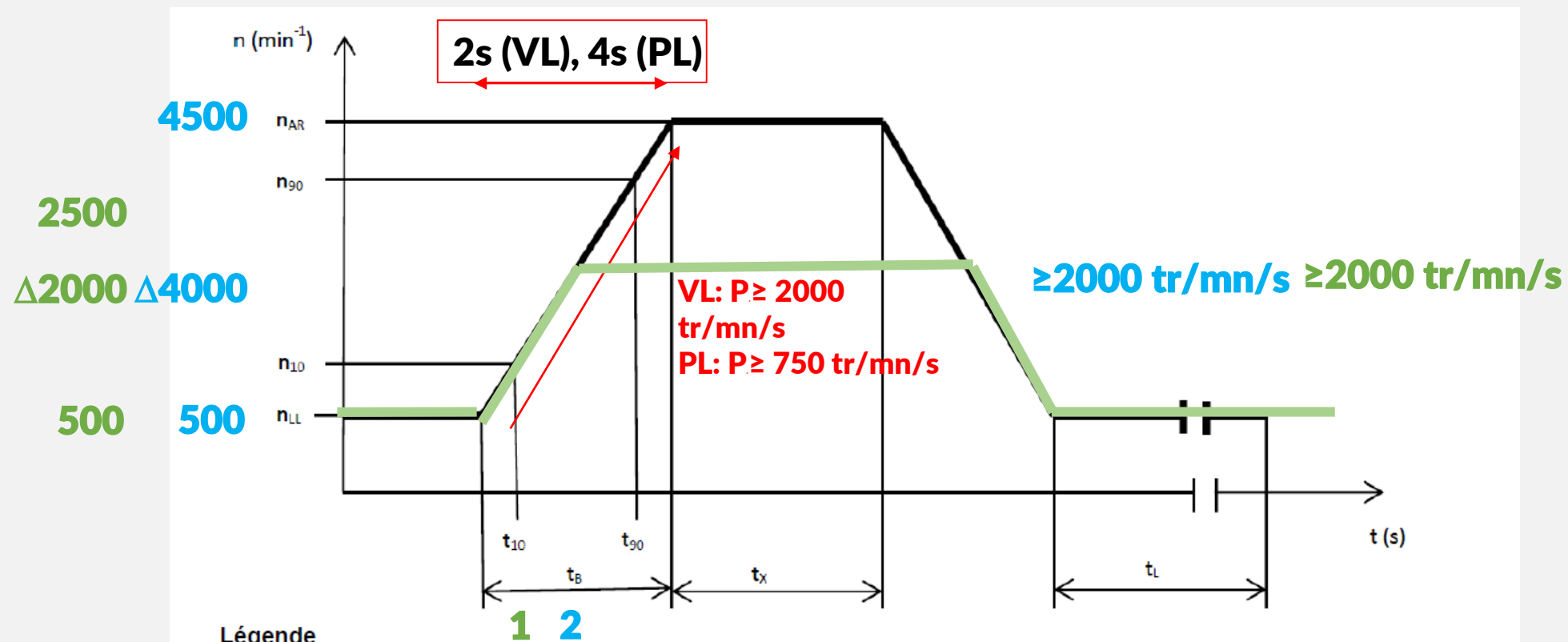
**2 equipments approved up to now**

**– Roll out must be done by 1/1/2019**

**– Threshold 0,7 by 0/20/05/2018 for euro 6 !!**



# Profil d'accélération

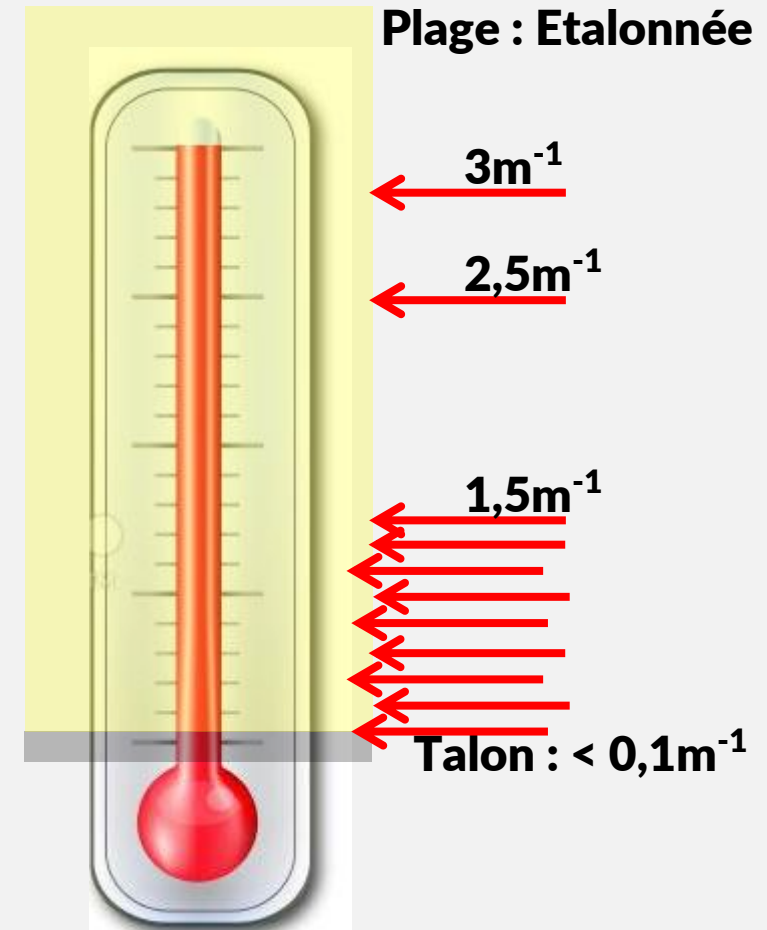
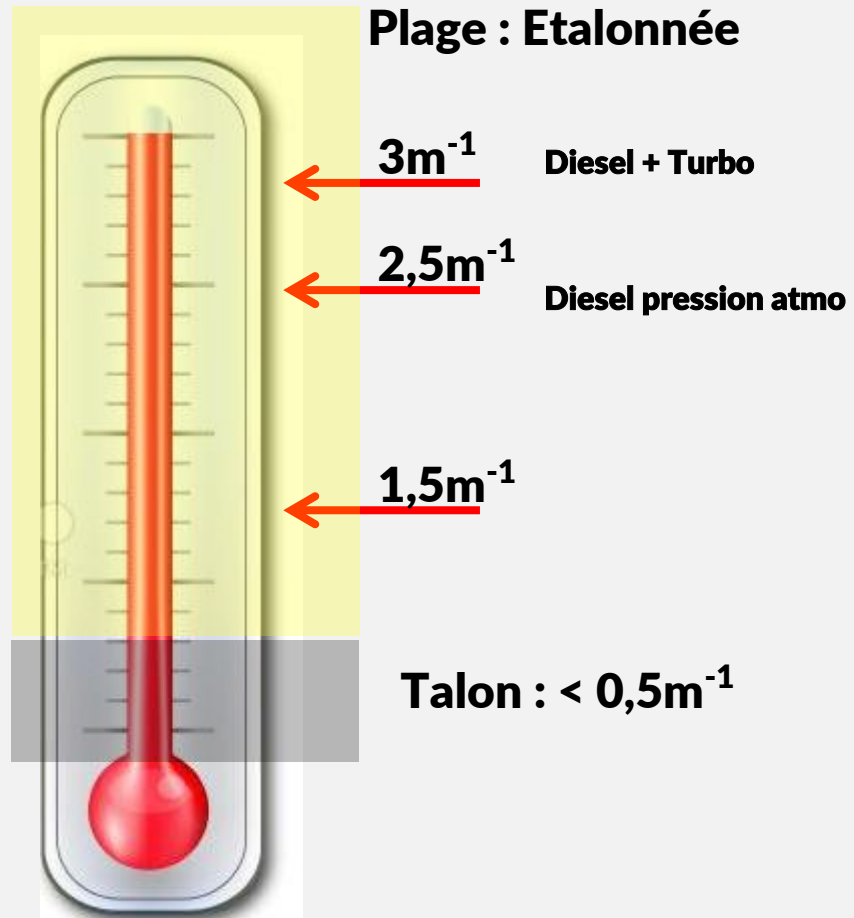


$n_{LL}$  régime au ralenti  
 $n_{AR}$  régime de régulation  
 $n_{10}$   $n_{LL} + 10\% n_{LL}$   
 $n_{90}$   $n_{AR} - 10\% n_{AR}$

$t_B$  temps d'accélération  
 $t_X$  temps de mesure  
 $t_L$  temps entre deux accélérations



## Synthèse des seuils





# Additional initiatives

- **Petrol data will be monitored :**
  - All data are transferred CO, CO<sub>2</sub>, O<sub>2</sub> et HC
  - Further study will be performed on those data
- **EODB DTC are recorded even if the MIL is OFF**



## Situation In UK



# Update of the Opacimeter Procedure

## **– Plate value will be used by 20/5/2018:**

- **No data base available (up to now)**
- **Default value is 0,7m<sup>-1</sup>**
- **No new approval required**
- **No new calibration filter required:**
  - **In order to improve the accuracy of DSMs at the lower test level, a GEA sub-group will be established to look at the feasibility of changing the values of the DSM calibration filters.**
- **Just before Christmas the DfT released the latest version of the emissions data, which has been circulated to the Emissions Working Group for review only. The Data will be signed off by Parliament on the 1st February 2018 and all MOT testing stations will need to test to that data by the 20th May 2018.**
- **Therefore the 20th May 2018 is an important date because 22,600 DSMs and EGAs will need to have been updated.**



## Situation In Italy



- **Directive 2014/45/EC was official adopted from Italian Ministry of Transportation (MiT) starting from 19/05/2017 but after that no implementation decrees was released.**
- **In the past months some sub-working groups (between AIKA and MiT) were active in order to align Italian normative to European.**
- **Some of these finalized the task between September and November and pass documentation to MiT for approval (no news...).**
- **It was finalized also the new technical rules for opacimeter**
- **Instead for Gas Analyzer: meeting at the end of January (30), in this case the only update is the alignment to MID for homologation process of equipment.**
- **Approval of all new technical rules around 2Q/2018 but election in March**



## Situation In Spain

All ready done.  
No change



## Situation In Belgium

**GOCA is investigating if opacimeter for the field are able to enlarge their measurement capabilities down to  $0,1\text{m}^{-1}$  with the appropriate accuracy**



## Situation In NL

TNO last investigation seems to target PM measurement introduction



A 3D map of Europe is shown in a light gray color. A dark blue banner with a white border is positioned horizontally across the middle of the map. The banner contains the text "Situation regarding NOx" in white. The map is rendered with a slight shadow, giving it a three-dimensional appearance.

## Situation regarding NOx



## Situation In France



# Output of Article 65 test campaign

- **No solution without load are considered by UTAC**
- **Solution will be dyno based**
  - **2 axles dyno are required (huge impact on budget and required space)**
  - **No procedure is defined**
  - **No limits are defined (no bridge with approval values)**
  - **No further study defined**
  - **Schedule could be 2022 at best**



## Situation In Germany



# New test campaign set up

- **some of the Technical Services in Germany are involved in a research project for the PIT regarding the influence of malfunctions and manipulations on the exhaust treatment systems of vehicles with diesel engine.**
- **Working package to analyze the influence of manipulations on the vehicles regarding NOx values. A procedure should be established in the future for PIT.**
- **Specification sheet with possible manipulations for all other tests of the other Technical Services as well.**
- **The possible procedures in the future could be testing at idle conditions (without load) or testing on a roller under load or testing on the road with a kind of mini PEMS. So all these possibilities should be investigated in this project**



## CITA SET II Study



- **Lab test are almost completed**
- **Test equipment roll out on the field is completed.**
- **Test campaign had started**
- **Intermediate report will be commented during next CITA congress (June)**



A photograph of several European Union flags waving in front of a modern glass and steel building. The flags are blue with yellow stars. The building has a grid-like facade with many windows. A dark blue semi-transparent banner is overlaid on the left side of the image, containing the text 'Updated news from Brussels'.

## Updated news from Brussels





# Reports from Roadworthiness Committee on 04/12/2017 & ACEA Workshop on 05/12/2017 on Adblue and DPF tampering detection





- **7b.1. Any vehicle with an emission control computer shall include features to prevent modification, except as authorised by the manufacturer. The manufacturer shall authorise modifications if they are necessary for the diagnosis, servicing, inspection, retrofitting or repair of the vehicle. Any reprogrammable computer codes or operating parameter shall be resistant to tampering and afford a level of protection at least as good as the provisions in ISO 15031-7 dated 15 March 2001 (SAE J2186 dated October 1996). Any removable calibration memory chips shall be potted, encased in a sealed container or protected by electronic algorithms and shall not be changeable without the use of specialised tools and procedures. It shall only be permitted for features directly associated with emissions calibration or prevention of vehicle theft to be so protected**
- **7b.2. Computer-coded engine operating parameters shall not be changeable without the use of specialised tools and procedures (e. g. soldered or potted computer components or sealed (or soldered) computer enclosures).**



EC increasingly aware of having to find a solution to:

- 1. Removal of DPFs on both passenger & heavy duty vehicles – creating increases in particulate levels – especially in urban areas.**
- 2. Manipulation of AdBlue systems (emulators and software changes) – increasing levels of NOx**
- 3. Does not consider any acceptable test methods (i.e. roadside) yet exist that are fast, not expensive, accurate enough and repeatable.**
- 4. Openly expressed its disappointment that no test equipment can address that issue. If available, then EC will start acting.**
- 5. ACEA claiming that legislative access to diagnostic RMI is creating the problem.**



## Questions to members:

- 1. What can EGEA members propose as a solution to either/both emission issues?**
- 2. How do we structure our approach to the EC concerning any technical solution?  
*[existing test methods, maturity of new test methods etc.]***
- 3. Diagnostic data is normally only available as a B2B contract with the VM – any other data which could be used to design emulators or software manipulation? *[i.e. are EGEA members able to claim that RMI diagnostic data is insufficient to be used as the basis of the problem?]***