

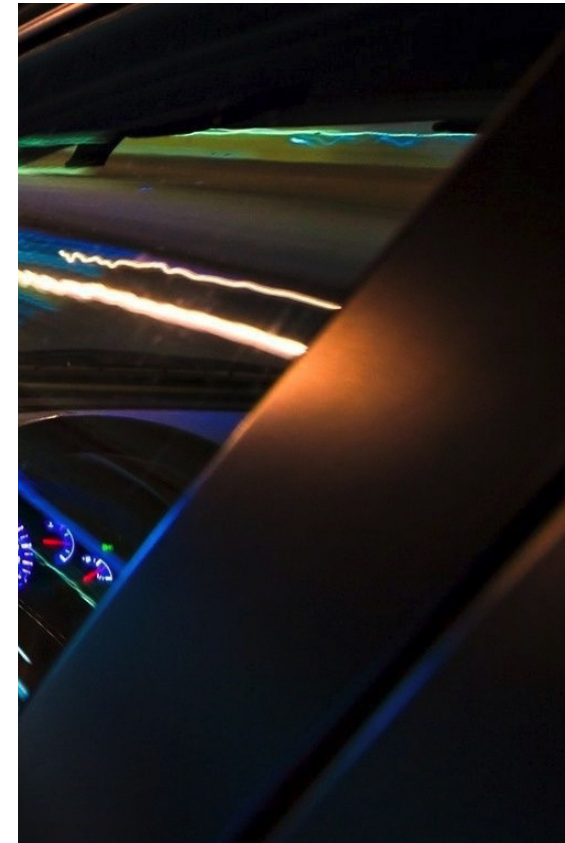
WLTP - Study on real life tanks

11TH MEETING OF THE GRPE INFORMAL WORKING GROUP
ON WORLDWIDE HARMONIZED LIGHT VEHICLES TEST PROCEDURES (WLTP)

GENEVA, SWITZERLAND, JUNE 09 - JUNE 10, 2015

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DAIMLER CUSTOMER EVALUATION (1/2)

Data base
Mercedes-
Benz Cars

Scope of
testing

Measured value

Processing
of results

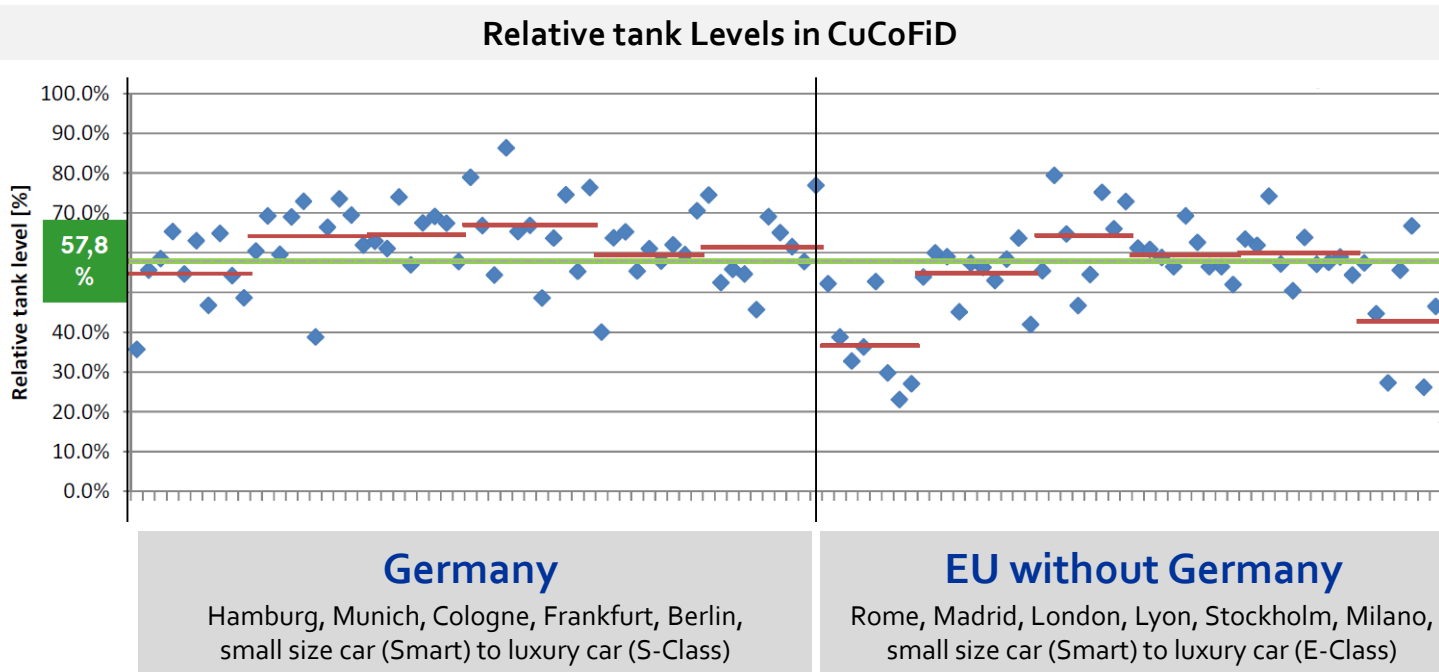
Key Findings

- 111 vehicles
- 1.7 Mio. km travelled by customers
- Approx. 1 year observation time per vehicle
- Tank level in l [recorded as 1 Hz time series]
- Derivation of mean (time based) tank level per vehicle
- Computation of relative mean by dividing
$$\frac{\text{Mean (time based) tank level}}{\text{tank capacity}}$$
- Means by class/region are computed based on relevant vehicle means
- Mean (by vehicle) relative tank level is **57.8 %**
- Some vehicles showing surprising low levels (< 30 %)
- Some of these vehicles never filled up completely!



DAIMLER CUSTOMER EVALUATION (2/2)

Measurement results



Key Findings

- Mean (by vehicle) relative tank level is **57.8 %**
- Data from Italy showing lower class / region means of **36.6 %** resp. **42.7 %**

WLTP DEFINITION TANK LEVEL

Real Life Driving

Mean (by vehicle) relative tank level is

57.8 %

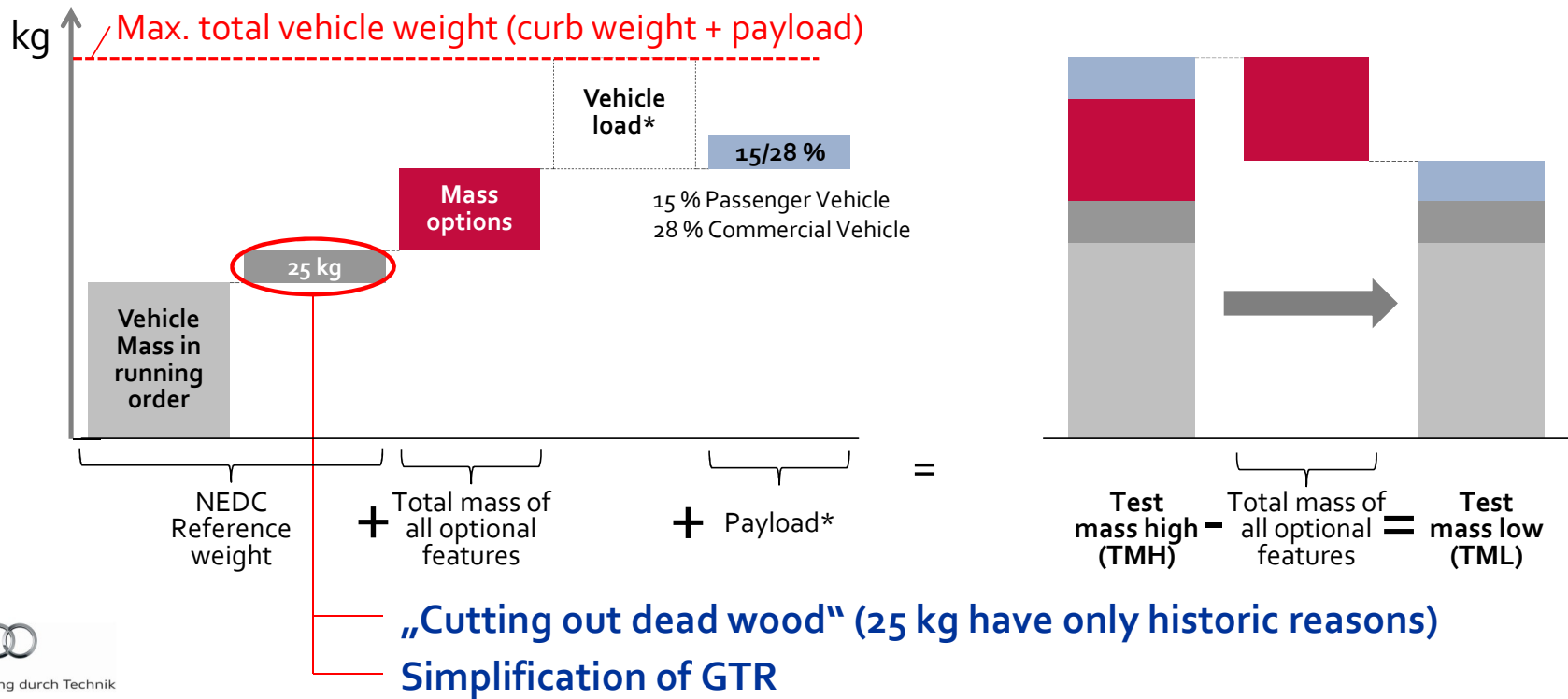
WLTP Mass Definitions

- 3.2.5** *"Mass in running order" means the mass of the vehicle, with its fuel **tank(s) filled to at least 90 per cent** of its or their capacity/capacities, including the mass of the driver, of the fuel and liquids, fitted with the standard equipment in accordance with the manufacturer's specifications and, when they are fitted, the mass of the bodywork, the cabin, the coupling and the spare wheel(s) as well as the tools*
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- 3.2.c** *"Actual mass of the vehicle" means the mass in running order plus the mass of the optional equipment fitted to an individual vehicle;*
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- 3.2.d** *"Test mass of the vehicle" means the sum of the actual mass of the vehicle, 25 kg and mass representative of the vehicle load;*

Conclusions

- The definition of **90% tank level** in „mass of running order“ is much too high
- „Mass of running order“ is used in many other regulations –
Change would be **difficult and expensive**
- Change in WLTP „Test mass of the vehicle“ is much **easier** (GTR15 Level) and **suitable**

WLTP DEFINITION TEST MASS



Proposed Changes

GTR15

3.2.7 *“Maximum vehicle load” means in this GTR the difference between the technically permissible maximum laden mass and the sum of the mass in running order, ~~25 kg~~ and the mass of the optional equipment.*

3.2.d *“Test mass of the vehicle” means the sum of the actual mass of the vehicle, ~~25 kg~~ and mass representative of the vehicle load;*