



Progress Report

DTP Subgroup

Lab Process Internal Combustion Engines

(LabProcICE)

Geneva, 6.6.2012



Overview

- 1) State of the working progress**
- 2) Roadmap & validation phases 2 and 3**
- 3) Issues on DTP level**
- 4) Work in progress items / proposals / open issues**
- 5) Next steps**



Meetings since DTP9

- several dates Draft working team meetings
- 15.05.2012 Telephone Conference
- 22.05.2012 Brussels workshop
minutes: [LabProcICE-133](#)



OIL, gtr draft, definitions

Open issues list

[LabProclCE-111](#) (*will be updated soon*)

Note: additional LabProclCE [open issues](#) are listed in the [gtr draft](#) documents, see comments of S. Dubuc (Drafting Coordinator).

gtr draft

Several draft tel/web conferences with LabProclCE experts organized by Serge Dubuc (DC)



Gtr draft version 1 (see DC documents [WLTP-2012-015](#) /-.../-023)

Annexes:

- I:** **drive cycles** (incl. mode construction)
- II:* *gear selection & shift points*
- III:* *reference fuels*
- IV:** **road load determination**
- V:** **test equipment, calibrations**
- VI:** **test procedure, test conditions**
- VII:** **calculations**
- VIII:* *electrified vehicles*
- IX:** **system equivalency**



Definitions

Current status:

- DC documents ([WLTP-2012-002](#) /-003 /-004)
- Gaseous Fuel definitions ([GFV-18-02](#))

WP.29:

Task Force Group under GRPE to develop a frame system of terms, definitions and classifications regarding vehicle propulsion systems (see [WP.29-156-26](#))

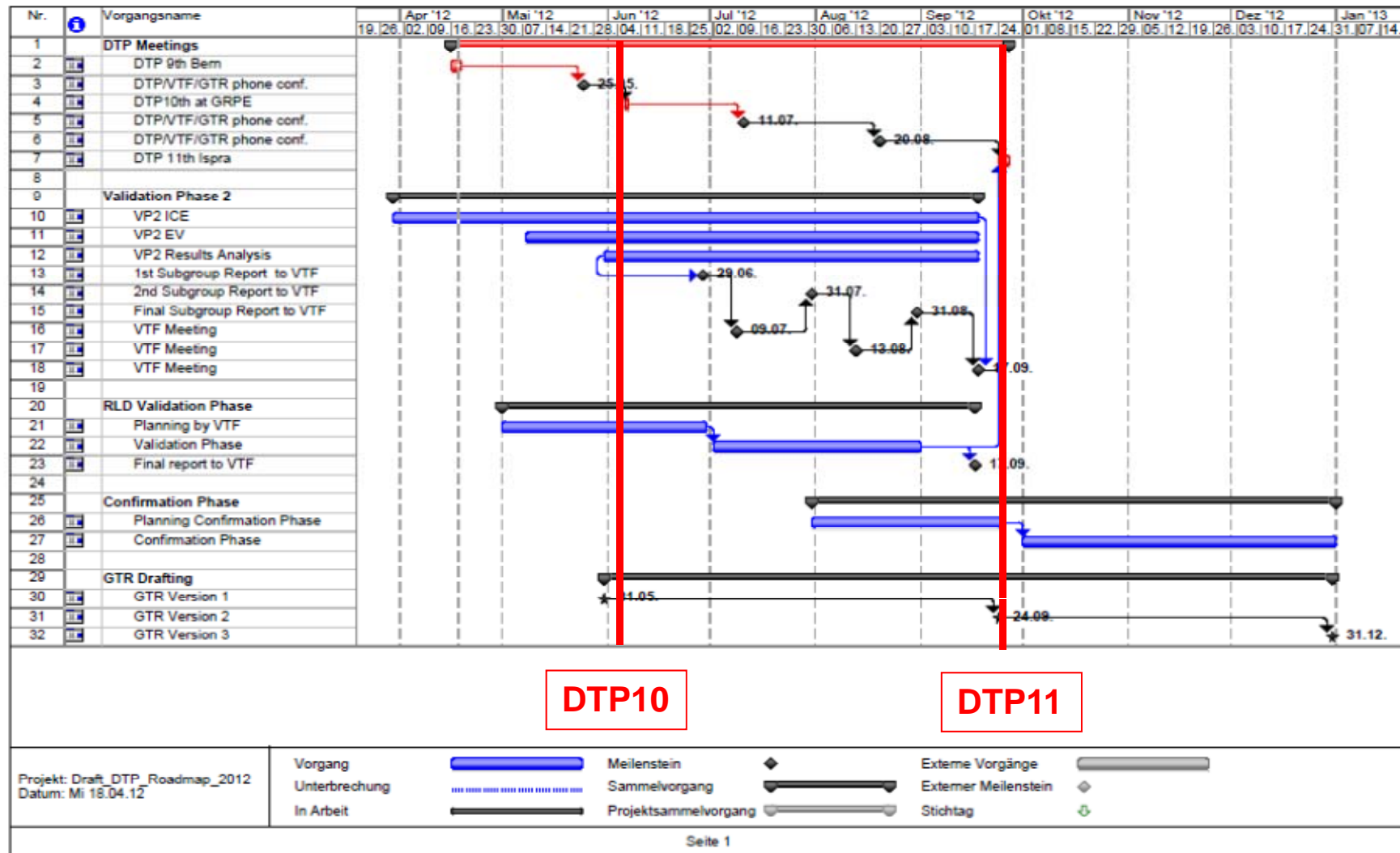
Next steps:

- Separate meetings with DC and representatives from all subgroups will be scheduled by DC
- Definitions will be imported into a database



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Open roadmap issues affecting LabProcICE

Concerns regarding the ability to achieve evaluation of validation 2 results within the given timeframe (DTP11, Sept 2012)

- interaction & responsibilities LabProcICE / VTF?
- data availability, status of provided data?
- all decisions taken at DTP11? start of confirmation tests in Oct 2012?

Update from DTP/VTF meeting 05.06.2012:

Proposal of WLTP steering group welcomed

- possible extension of validation 2 evaluation until Jan 2013 (DTP12)
- start of confirmation / round robin in 2013



Validation phase 2

VTF documents provided by LabProICE and continuously reviewed:

- Assessment criteria
- Parameter setting list
- Excel data sheet for reporting of results
- **Global Test Matrix**
 - reminder: final check if the selected vehicles and the intended tests will deliver sufficient results to come to decisions regarding all evaluation issues
- **Evaluation Issues for Validation 2**
 - Guidance document [DTP-09-10](#)



Validation phase 3 - road load determination

- Roadmap: July - September 2012
- Coordination: VTF – key responsibility Japan
- Parameter setting list:
first draft provided by Japan
→ to be reviewed by LabProICE RLD experts



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Test mass / inertia classes / vehicle selection

(see [DTP-10-02](#))

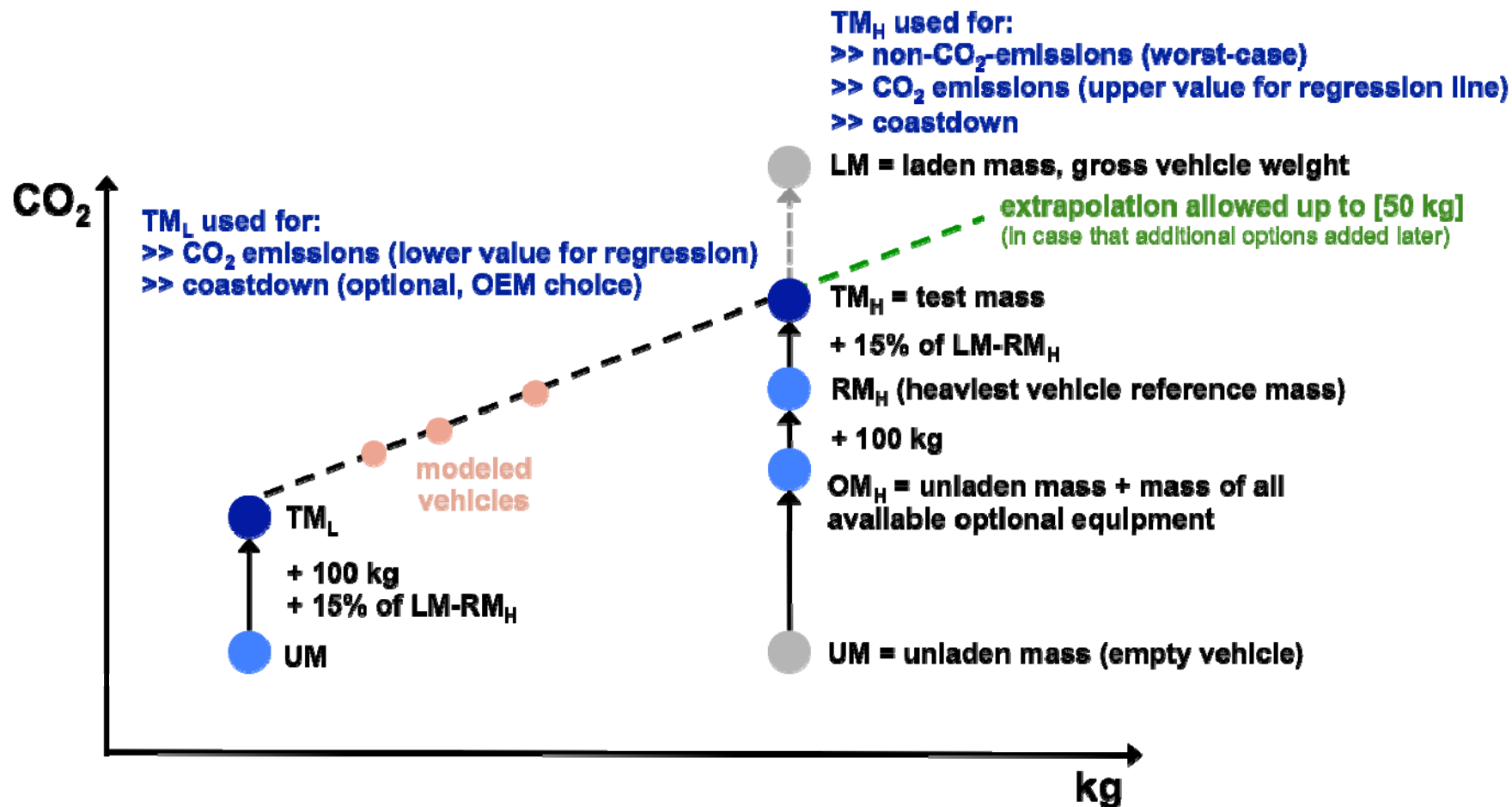
Combined approach includes:

- (1) **vehicle test mass**
improved definition (incl. optional equipment, luggage/payload)
- (2) **step-less inertia**
- (3) **optional body parts influencing the aerodynamics**

→ Testing worst case and in addition best case
(if requested by manufacturer)



DTP-10-02, figure 1:





Tyre selection criteria

- excluded from general approach
- **follow RLD selection criteria** in both cases (TM_h, TM_l)
(note: scrutiny reservation by Japan)

LabProICE proposal:

- Tyre from the **worst rolling resistance class**
(defined by European tyre labeling directive, RR acc. to R117)
- No distinction of tyres with different RR coefficients within the worst class
→ final decision based on **ICCT study** on the CO₂ impact of the RR
- **Approval extensions** or the necessity of re-tests is no gtr issue



DTP10:

Comments/ proposals from **Japan** ([DTP-10-xx](#)) on tyre & vehicle selection

Aerodynamic options

→ Update of gtr draft (Annex IV on RLD)

→ Discussions in draft expert and LabProICE meetings:

Items to be included in best / worst case approach (e. g. wheel rims, position of covers of air ventilation, retractable spoilers etc.)

→ proposals by **Japan** (DTP-10-xx) and **T&E**



Payload factors

Current proposal based on AEA report: **M1 15%, N1 35%**

Japan ([LabProclCE-132](#)):

→ **N1 factor** may differ significantly from 35% in Japan

India ([LabProclCE-128](#)):

→ **Alignment of the M1 and N1 payload factors** (esp. for LPW)

LabProclCE concluded:

→ Current payload factors proposal is still valid

→ All parties are requested to submit data to justify their counterproposals.

→ Discussion on DTP level based on validation 2 results and additional data



Family concepts

See initial discussion document by Bill Coleman ([DTP-09-02rev1](#))

→ Analysis of family concepts in ECE R83.06

- test families
- definitions
- modifications of the vehicle type
- extensions to type approval

→ revision and redefinition of family parameters is necessary and possible

DTP9 :

→ family concepts (or at least guidelines) should be part of the gtr

→ All contracting parties are asked for comments until DTP10



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Road Load Determination

Table of Running resistances (see LabProclCE-121 by PSA)

- No updated proposal due to missing feedback from **EU COM / JRC**
- Reservation by EU COM:
Default factors should represent worst case, use of table data should not be an incentive
- Indian comments (LabProclCE-128) will be considered in gtr draft

Other proposals (see LabProclCE-120rev1 by Japan):

- Vehicle warming up for RLD / dyno load setting .
- ...

→ discussion at RLD draft expert meetings / LabProclCE



Measurement equipment

Proportional fan

Current proposal: **max. fan speed = max. speed of cycle** (132 km/h)

(Note: separate requirements were set for validation 2: at least 100 km/h)

LabProICE discussion:

- Concerns by **Japan**
- **Automotive industry** proposed to limit the max. fan speed to **120 km/h** for cost/benefit reasons: speeds 120-132 km/h only occur for seconds in cycle \leftrightarrow energy consumption and costs for new equipment.
→ objection by NL



Proposal from automotive industry experts:

“Cooling fan specifications:

A current of air of variable speed shall be blown over the vehicle. The cooling fan shall have a maximum speed of at least 132 km/h. The linear velocity of the air at the outlet shall be ± 5 km/h or within $\pm 15\%$ of the corresponding roller speed, whichever is greater. At roller speeds of less than 10 km/h, air velocity may be zero.”

Justification:

At maximum roller speed (132 km/h) air velocity has to be within 113 km/h and 152 km/h). This is a compromise between exact reproduction of ambient conditions and the technical realization of air flow in different test cells.



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Meeting schedule

- Small draft experts teams will continue work with DC
- Additional Tel/web conferences, e. g. for evaluation of validation phase 2 results
- Next face-to-face workshop:
04.- 06. September 2012 (tbc), Brussels (ACEA)



Thanks for your attention.

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