

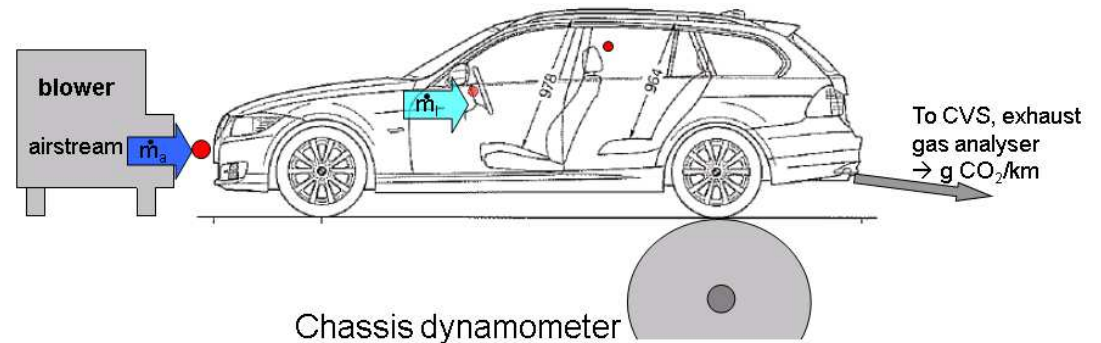
Update of MAC Pilot Test Phase

Informal meeting of MACTP working group at 64th GRPE

June 5th 2012
Geneva

Consortium of:

TNO: Willar Vonk
TUG: Stefan Hausberger
LAT: Zissis Samaras
Savas Geivanidis



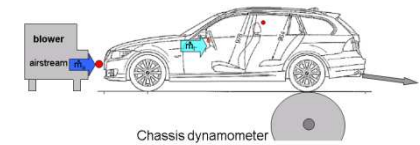
Assigned by EC DG Entr:
Nikolaus Steininger

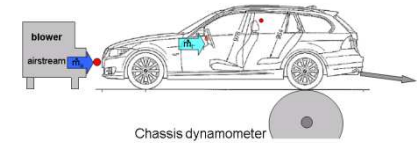
This presentation will be made available on the UNECE website

Agenda:

MAC Pilot Test Phase:

- › Introduction
- › Short description
- › Topics addressed in test Phase A
- › Preliminary results of test Phase A
- › Outlook





Targets of the MAC Pilot Phase

→ Create technical annex to the Regulation

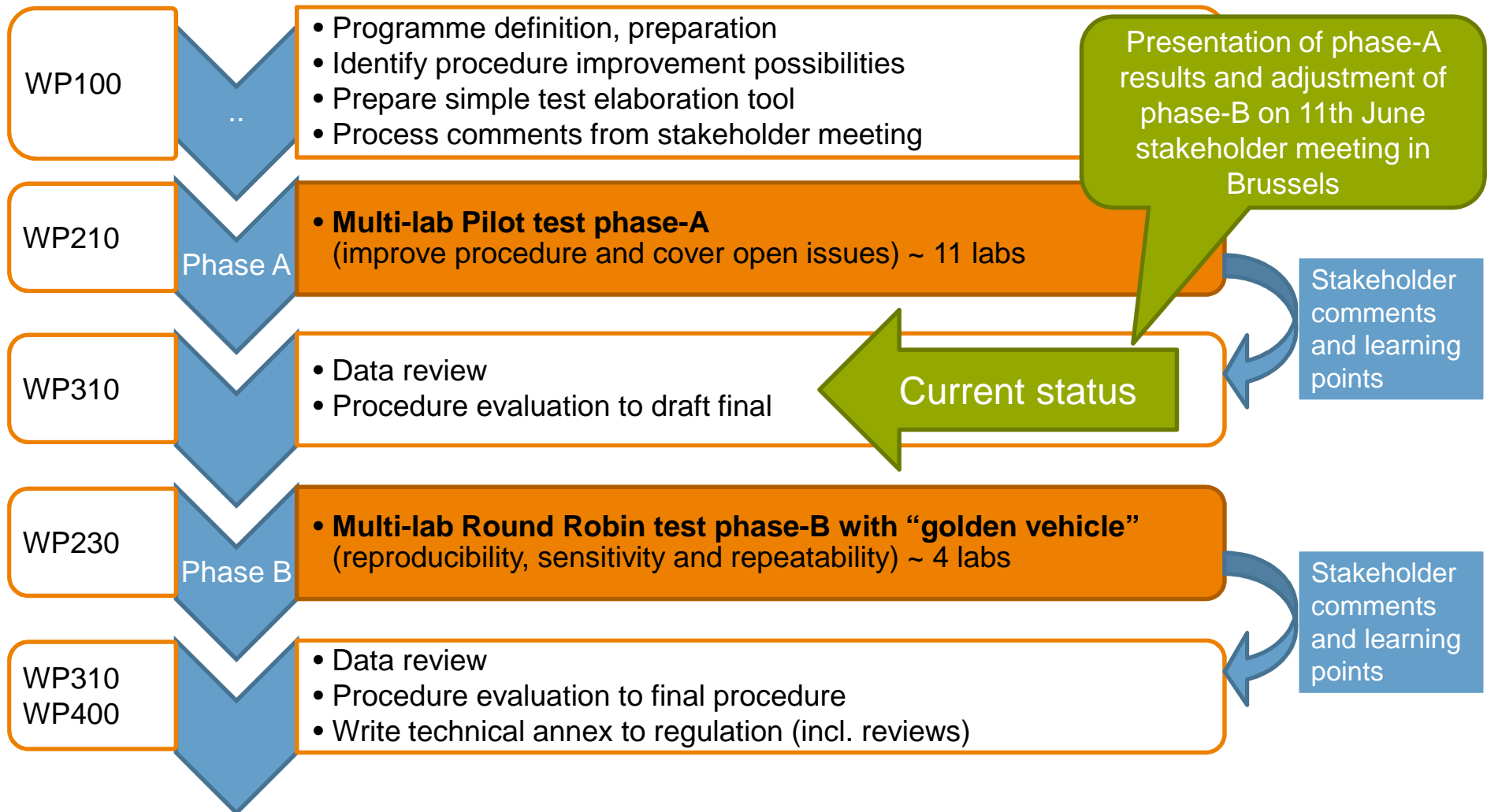
A draft type approval test procedure for MAC energy efficiency assessment was developed by Consortium of TUG, LAT, KTI and TNO.

Pilot Test Phase is defined to:

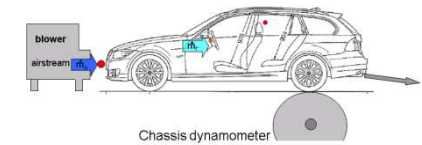
- › Cover open issues and options for settings and data processing
- › Check repeatability and sensitivity of the test procedure
- › Follow-up to the MAC test procedure a technical annex to the Regulation

During Pilot Phase, labs also gain experience with the procedure

MAC Pilot Test Phase contains two test phases:



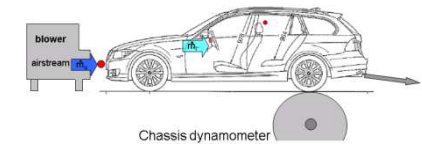
Participation in pilot Phase-A



Participant	Expressed interest	Performed measurements	Vehicles tested	Measurements submitted
A	YES	YES	2	4
B	YES	YES	3	25
C	YES			
D	YES	YES	2	11
E	YES	YES	2	3
F	YES			
G	YES			
H	YES	YES	4	36
I	YES			
J	YES	YES	2	5
K	YES			
L	YES			
M	YES	YES	1	1
N	YES	YES	1	4
Total:	14	8	17	89



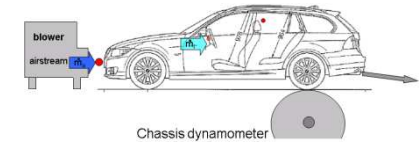
Topics that have been addressed in pilot phase-A



- › Sensitivity of the procedure for different:
 - ✓ › MAC technologies (as far as possible)
 - ✓ › Engine size and fuel types
 - ✓ › Vehicle sizes and classes
- › Sensitivity of the procedure for variations in:
 - ✓ › Ambient temperature and humidity (test at low and high)
 - ✗ › GSI versus fixed gear shift strategy
 - ✓ › Soaking temperatures (between 20°C and 30°C)
 - ✓ › Drive cycle at minimum and maximum speed (dyno power)
 - ✓ › Blower on/off in MAC off phase of the test
 - ✓ › Solar load simulation during the test in (one lab)



Preliminary Results (without insight into actual data)



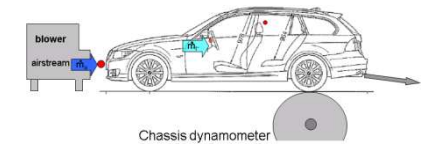
- › In general the procedure is found to be reliable
- › Sensitivities are or can be corrected for with correction formulas

- › Some details still need discussion:
 - › Ranges of Humidity and Temperature
 - › Number of repetitions for TA
 - › Allow bag measurements yes or no
 - › Different vehicle sizes in relation to HVAC mass flow setting
 - › Blower on/off during MAC-off phase

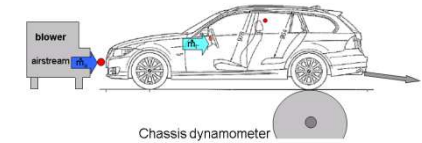


Outlook of activities

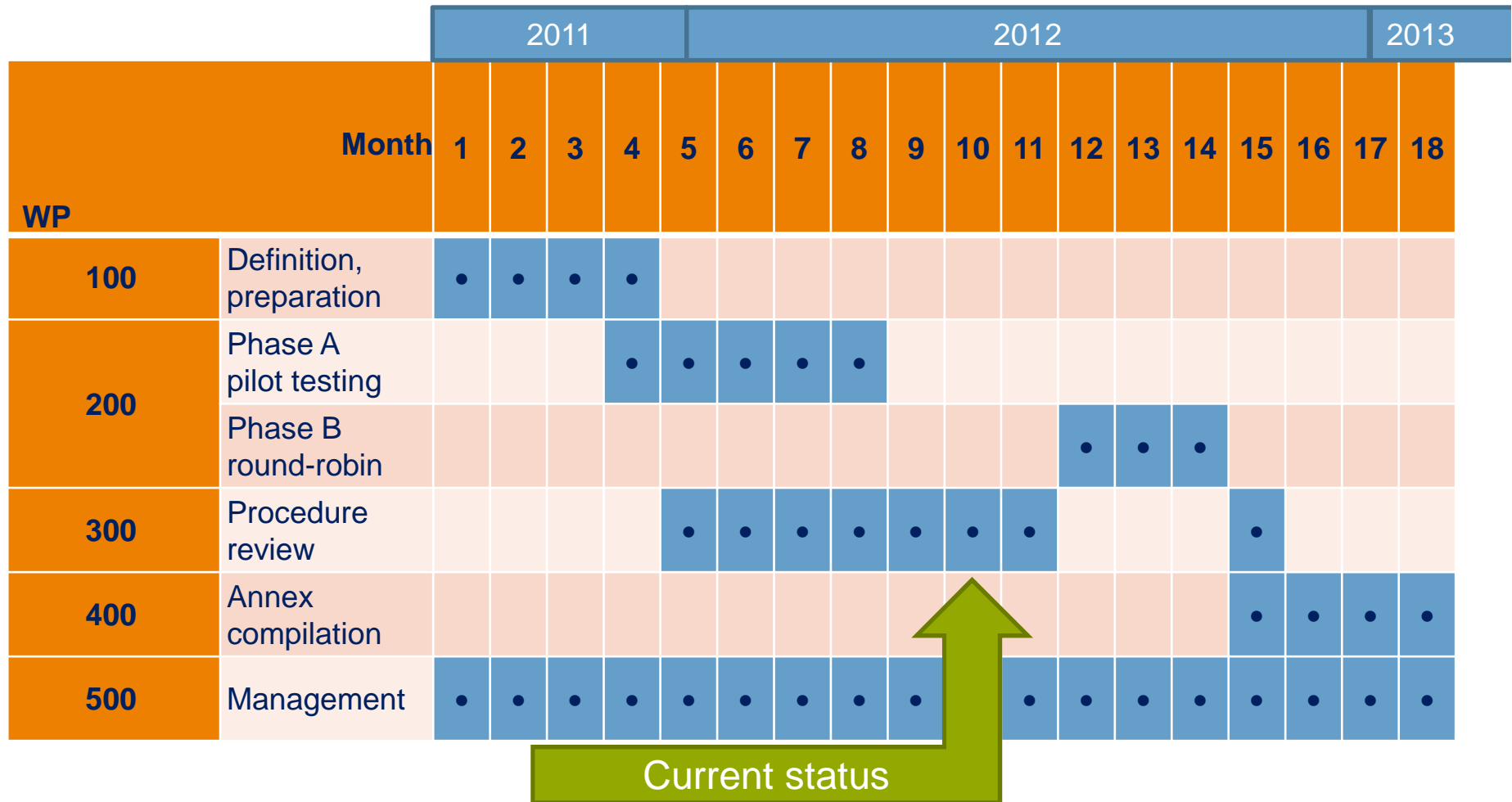
- › Stakeholder meeting on 11th of June
- › Fine tuning of the procedure
- › Round Robin testing (July – October)
- › Procedure finalization
- › Develop technical annex to regulation

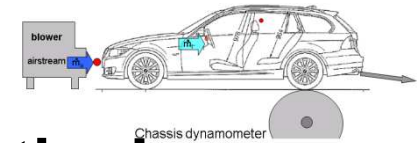


Time Schedule of the Pilot Test Phase



Project started 16 August 2011





Thank you very much for your attention!



Questions?



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