



# Swedish activities and research needs related to ERMES

Håkan Johansson, Swedish Transport Administration

*ERMES Plenary Meeting, 23 May 2016, Lyon*



# SERMES

- A national collaborative partner network and “mirror group” to ERMES, consisting of VTI, IVL, AVL-MTC and WSP, the activities of which are financed by the Swedish Transport Administration.
- Established in 2004, after the decision was taken to replace a national road transport emission model by a common European model - ARTEMIS, later on merged with HBEFA - in Sweden.
- Updates HBEFA with national fleet and traffic activity data and calculates the national emissions from road transport on an annual basis, e.g. for international reporting obligations on air emissions.
- Contributes to ERMES with emission measurement data (and other input) on a regular (yearly) basis.



# SERMES – activities & partner roles

- VTI:
  - Yearly updates of HBEFA with fleet and traffic activity data
  - Yearly calculations of national emissions from road transport
  - Improving traffic activity data for Sweden as input to HBEFA
- AVL MTC:
  - Coordinating alternative fuel emission data within ERMES
  - PEMS measurements on HDV in Sweden and reporting to ERMES
- IVL:
  - Representative of Sweden in ERMES Executive Board
  - On-road remote sensing activities in Sweden
  - National user guide for HBEFA (together with WSP)
- WSP:
  - Contributing to the development and updates of HBEFA traffic situations
  - National user guide for HBEFA (together with IVL)



# Swedish In-Service Conformity Program

- Annual programme financed by the Swedish Transport Agency
- A new procurement for the next years to come has just been finalized:
  - TÜV-Nord continues to measure LDV
  - AVL-MTC continues to measure HDV
- Indicative programme for 2016 – LDV:
  - NEDC, WLTP and ERMES for 10 vehicle models (5 vehicles/model = 50 vehicles)
  - PEMS for 5-6 vehicle models (3 vehicles per model = 15-18 vehicles)
  - Petrol also type 4 (evap) and 6 (cold temp) tests
  - Special attention will be paid to cars from the VW group
- Indicative programme for 2016 – HDV:
  - 15 vehicles, all PEMS and some also chassi
  - Special focus on PEMS PN



# Identified research needs and needs of updates for HBEFA

- PM emissions from motorcycles and mopeds (now EMEP/EEA guidebook)
- CO<sub>2</sub> emissions from urea use (now EMEP/EEA guidebook)
- BC (Black Carbon) emissions (now EMEP/EEA guidebook)
- Evaporative emissions (inclusion of latest research)
- CO<sub>2</sub>/fuel consumption - common correction method for using data from the national vehicle register to describe annual trend for new vehicles
- Traffic situations - need of new TS, validation and clarification

# Suggestions for future development of HBEFA regarding traffic situations

- Clarification of definitions and descriptions of the traffic situation scheme
- Add speed limits to TS for semi motorways
- Add road categories for lower speed roads
- Validation of TS against driving pattern parameters of measured data. Preferably validation/comparison to average speed and RPA
- If found general tendencies, modify speed cycles to better match data
- Consider to divide stop-and-go into two phases for some applications