

Joint Research Centre

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*Serving society
Stimulating innovation
Supporting legislation*

CO₂MPAS validation

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Vehicle manufacturers session

Ispra. December 12-13, 2016

www.ec.europa.eu/jrc

Overview of CO₂MPAS validation

Essentially, the accuracy of the CO₂MPAS tool is analyzed by comparing the NEDC CO₂ emission prediction of the model (*Predicted CO₂*) against the CO₂ emission measured during an NEDC physical test (*Target CO₂*).

$$\text{CO}_2\text{MPAS deviation} = \frac{(\text{Predicted CO}_2 - \text{Measured CO}_2)}{\text{Measured CO}_2} * 100$$

CO₂MPAS deviation > 0 → Model overestimation

CO₂MPAS deviation < 0 → Model underestimation

Sets of data used for validation

2 complimentary data sets have been used so far:

- **Real data**

Gather along time (JRC labs, LAT, mock-up activities...)
(WLTP and NEDC tests)

Set of 40 real vehicles with 39 High-load vehicles and 15
Low-load vehicles

- **Synthetic data**

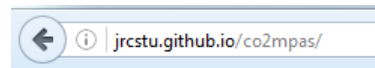
Derived with AVL Cruise model using OEM-approved vehicle
input data

Large set of vehicles with different RLs, masses, and
available technologies configurations

- Manual transmission ~ 2150 cases
- Automatic transmission ~ 1400 cases

Public history of CO₂MPAS validations

- Available at <http://jrcstu.github.io/co2mpas/>
- Anonymized for confidentiality issues
- Boost **transparency** and **traceability** of the progress of the model development



CO2MPAS Reports

v1.2.x: "Panino" release

- [MT validations](#)
- [AT validations](#)
- [Real validations](#)

v1.3.x: "Qube" release

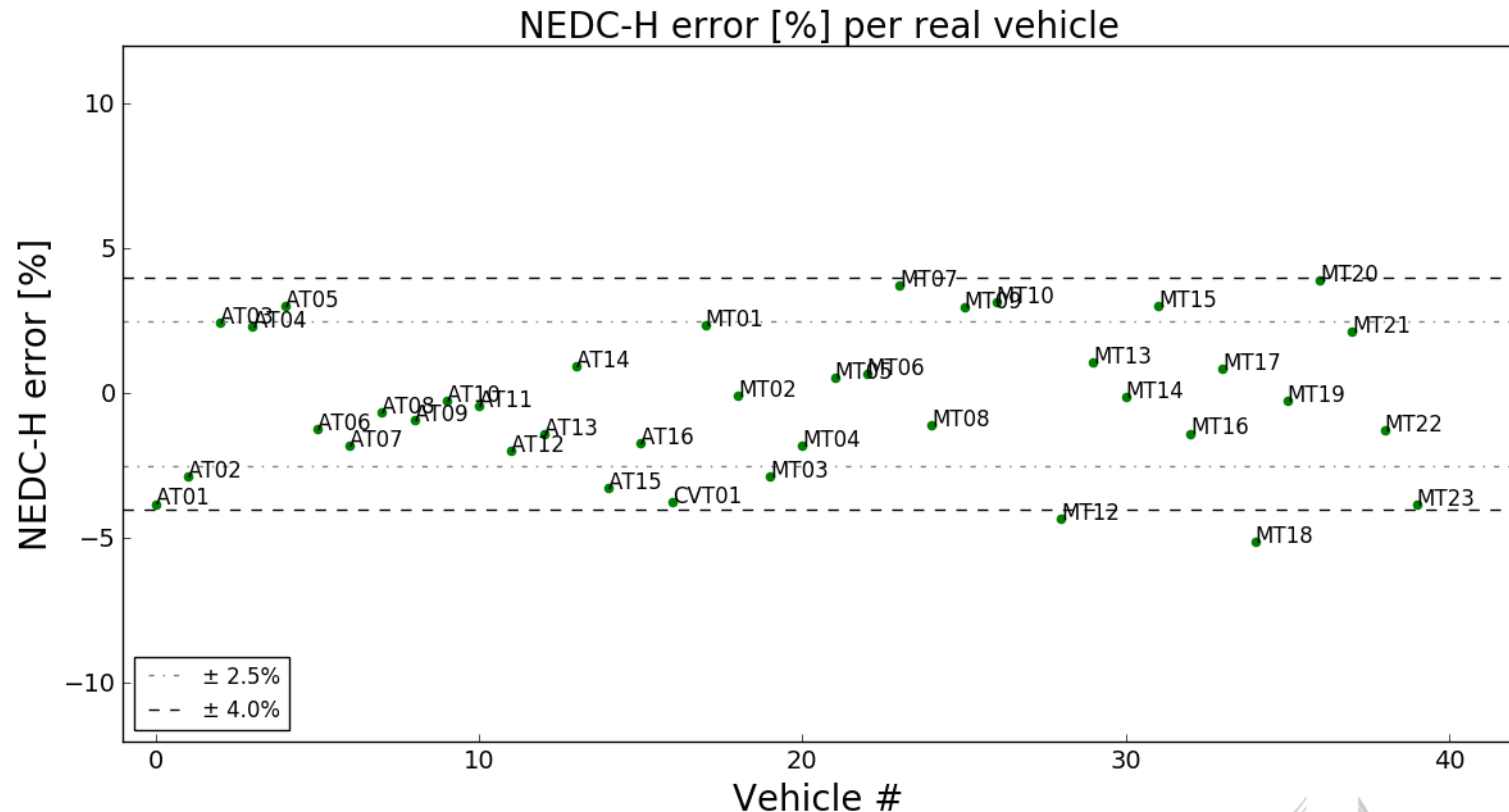
- [MT validations](#)
- [AT validations](#)
- [Real validations](#)

v1.4.x: "Rally" release

- [MT validations](#)
- [AT validations](#)
- [Real validations](#)

Real vehicles, Rally release

- Available at http://jrcstu.github.io/co2mpas/v1.4.x/validation_real_cases.html



visit co2mpas.io