

Project coordinator:

Prof. Zisis Samaras
Laboratory of Applied Thermodynamics
Dept of Mechanical Engineering
Aristotle University
54124 Thessaloniki, Greece
E-mail: zisis@auth.gr

Aristotle University of Thessaloniki
Laboratory of Applied Thermodynamics



Partners:



European Commission JRC



The exploitation group

Coordinated by Polis, the exploitation group will bring together cities & private actors around Turin, Rome and Madrid. The group is an active exploitation platform through which, the methodology and guidelines of ICT-Emissions will be propagated to reach as many potential followers and users as possible.

The members of the group will provide data and deliver feedback on the methodology, models and tools to guarantee that the final outcome will fit the needs of European cities and other stakeholders.

To join the exploitation group, please contact:

Dr. Florinda Boschetti
Polis
rue du Trône 98, B-1050 Brussels, Belgium
Tel: +32 (0)2 500 56 74
E-mail: fboschetti@polisnetwork.eu



Assessing the impact of ICT on road transport emissions



Join ICT-Emissions group on Linked In

Follow @ICTemissions on Twitter

www.ict-emissions.eu

www.ict-emissions.eu

ICT-Emissions aims at developing and applying a methodology to evaluate the impact of ICT on CO₂ emissions in road transport.



ICT-Emissions aims at developing a methodology for assessing the impact of advanced ICT on energy efficiency and CO₂ emissions reduction.

It will for this purpose apply its methodology to emission models which take into account driver behaviour, and that can be used by transport planners, local authorities, and automotive OEMs and suppliers.

The ICT-Emissions methodology will allow to quantify the impact of in-vehicle and traffic ICT measures on energy consumption and CO₂ emissions.

Based on the observed results, the project will issue recommendations and implementation guidelines that can lead to significant energy and CO₂ reductions from road transport.

The ICT-Emissions methodology

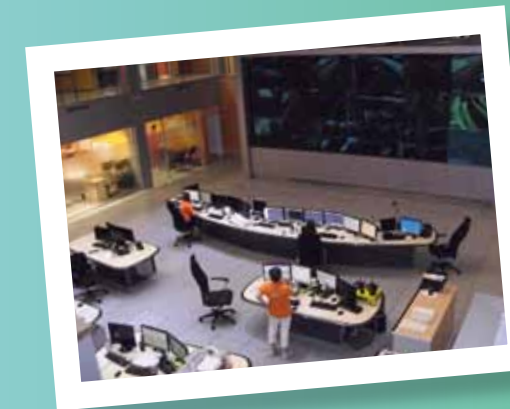


The methodology is developed at two levels:

- a micro-level where the impact of ICT measures is modelled at single-vehicle level. The micro-level is specifically developed for passenger cars, as they dominate CO₂ emissions in passenger transport in Europe (>80% of total land passenger transport). The micro-level takes into account the effect of ICT measures on driving pattern and driver behaviour. This is combined with an instantaneous emission model, taking into account the effect of different vehicle technologies, specifically designed to be coupled to the micro traffic model.
- Then, results of this microsimulation are extrapolated to the macro level. Total CO₂ emissions from road transport are then calculated for all vehicles using traffic situation and/or average speed specific emission factors for other road transport vehicles.

The methodology allows translation of a local ICT measure (e.g. street level) on CO₂ emissions of a wider area (e.g. urban level), with a representative level of detail at both the local and the wider level.

ICT-Emissions develops vehicle simulators to calculate the energy and CO₂ emissions of vehicles, also taking into account advanced vehicle technologies (hybrids, plug-in hybrids, electric, start-stop, etc.).



ICT-Emissions simulates the impact of various ICT measures by using commercial traffic models at the micro and macro scales, and link them to vehicle simulators, following the methodology developed.