ICT-Emissions

D7.5 Exploitation workshops and minutes

SEVENTH FRAMEWORK PROGRAMME

FP7-ICT-2011-7

COLLABORATIVE PROJECT – GRANT AGREEMENT N°: 288568

Deliverable number (D.7.5)

Delivery date (planned): 30/08/2012 (Month 11)

Delivery date (actual): 18/03/2013 (Month 18)

Delivery date (2nd update): 17/11/2104 (Month 38)

Author(s): Florinda Boschetti (1), Hermann Heich

Author'(s') affiliation (Partner short name): 1. POLIS

SEVENTH FRAMEWORK PROGRAMME

Document Control Page

Title	Methodology to evaluate the impacts of ITC/ITS measures on mobility, vehicle energy consumption and CO_2 emissions
Creator	Florinda Boschetti (POLIS), Hermann Heich
Editor	Florinda Boschetti (POLIS)
Brief Description	The main objective of this document is to collate agenda, list of participants, minutes and material from ICT-Emissions Exploitation Group workshops.
Publisher	ICT-EMISSIONS Consortium
Contributors	Sylvain Haon (POLIS), Hermann Heich, Sylvain Haon (POLIS)
Type (Deliverable/Milestone)	Deliverable
Format	Document
Creation date	18th October 2012
Version number	
Version date	21st October 2014
Last modified by	Florinda Boschetti (POLIS)
Rights	Copyright "ICT-EMISSIONS Consortium". During the drafting process, access is generally limited to the ICT-EMISSIONS Partners.
Audience	☐ internal ☒ public ☐ restricted, access granted to: EU Commission
Action requested	☐ to be revised by Partners involved in the preparation of the deliverable ☐ for approval of the WP Manager ☐ for approval of the Internal Reviewer (if required) ☒ for approval of the Project Co-ordinator
Deadline for approval	

Version	**Date**	**Modified by**	**Comments**

0.1		Florinda Boschetti (POLIS)	1st draft version of ICT-Emissions D7.5 for partners comments
0.2		Hermann Heich	Integrated minutes.
0.3		Sylvain Haon (POLIS)	2nd draft version of ICT-Emissions D7.5.
Final 1.0			Submission of ICT-Emissions D7.5 final version to the EC
V1.1		Silvain Haon	Revised section 3
V1.3	21 October 2014	Florinda Boschetti (POLIS)	Revision prior to submission to the EC for quarterly report

Contents

List of tables

List of figures

Executive summary

ICT–Emissions has established an exploitation group gathering potential users, comprising transport planners in urban authorities and in private practice, software producers and the various actors of the automotive and ITS industry. They will meet at various workshops during the project and will provide guidance and feedback on the evolution of the project to make their needs and objectives well known. This document is to report on Exploitation Group meetings during the project

1 Introduction

1.1. OBJECTIVES OF THE DOCUMENT

The main objective of this document is to report on Exploitation Group meetings during the project. It includes for each meeting the agenda, the list of participants, minutes and any additional relevant material.

1.2. STRUCTURE OF THE DELIVERABLE

This deliverable is a report on ICT-Emissions Exploitation Group activities. **Chapter 2** provides a brief introduction to the Group, the scope and its objectives. Meetings are presented in sub-chapters with their final agenda, a complete list of participants, and minutes. It should be acknowledged that activities under Task 7.5 “Exploitation of project results” are on-going and the content of the deliverable will be update during the project.

Chapter 3 explains briefly how the consortium intends to record and manage stakeholders feedback on project developments and outcomes. This part will be updated during the course of the project.

2 Establishing the Exploitation Group

ICT–Emissions has established an exploitation group gathering potential users, comprising transport planners in urban authorities and in private practice, software producers and the various actors of the automotive and ITS industry.

The Exploitation Group aims to progressively become a platform of interested parties who have expressed interest in ICT-Emissions, provide guidance and feedback on the evolution of the project to make their needs and objectives well known.

The group is coordinated by Polis with the active involvement of the whole consortium in this Task (T7.5).

2.1. FIRST WORKSHOP IN AMSTERDAM, 17TH OCTOBER 2012

The first Exploitation Group workshop took place at the Science Centre 'Nemo', Oosterdok 2, 1011 VX Amsterdam (the Netherlands) on October 17th 2012. It was mainly addressing local authorities members of Polis working group on mobility and traffic efficiency.

In this meeting ICT-Emissions partners presented the project, its objectives, methodology, and reported on the work accomplished to date, including presentations on the selection of ICT measures for assessing their impact on CO_2 emissions (IVECO), the case of Madrid (presented by TRANSyT-UPM). The meeting aimed at engaging participants in a dialogue with the project and at assessing the interest of local authorities in exchanging information with ICT Emissions to assess CO_2 emissions for their local ITS measures.

The meeting was held in concomitance with the Polis working group meeting on Mobility & Traffic Efficiency who gathered to talk open data and the ITS Directive. Overall the exploitation group meeting was attended by 20 delegates, mainly representing public authorities (Dublin, Rotterdam, Amsterdam, Utrecht, and province of North Brabant), public transit authority in Milan (ATM), the Dutch Traffic and Transport Knowledge Resource Centre (kpVV), the Norwegian Public Road Administration (NPRA).

In the afternoon the group participated in a technical visit to Amsterdam Traffic Control Centre.

2.1.1. WORKSHOP PROGRAMME

The workshop agenda is shown below.

Table 1: Agenda 1st workshop, 17th October 2012

Time	Topic	Presenter
10.30	Welcome and introduction to the meeting	Sylvain Haon, Polis
10.45	Introduction to ICT-Emissions and Presentation of the objectives of the project	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
11.10	Selection of ICT measures for assessing their impact on CO2 emissions	Silvana Toffolo, IVECO
11.40	Energy and emissions modeling approach	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
12.10	Presentation of the case of Madrid: selection of ICT measures for assessing their impact on CO2 emissions: dynamic speed limits, speed control	Cristina Valdes, UPM
12.30	Guidelines for the future use of the ICT-Emissions methodology for cities local ICT Measures	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
13.00	End of the meeting	

The agenda is also available online ICT-Emissions agenda exploitation group meeting 17102012

2.1.2. PARTICIPANTS

The list of attended at the first ICT-Emissions Reference Group meeting is shown below.

Table 2: List of attendees at first workshop

N.	Name	Initials	Affiliation
1	Zissis Samaras	ZSa	LAT, Aristotle University of Thessaloniki
2	Sylvain Haon	SHa	Polis
3	Florinda Boschetti	FB	Polis
4	Hermann Heich	HHe	Heich Consult
5	Silvana Toffolo	STo	IVECO
6	Christina Valdez	CVa	UPM
7	Jose del Pino	JPi	MAD
8	Gerdien Klunder		TNO (representing Amitran project)
9	Suzanne Hoadley		Polis
10	Michael Aherne		Irish National Transport Authority
11	Gideon Biegstraaten		Gemeente Utrecht
12	Anne Blankert		Municipality of Amsterdam
13	Hanfried Albrecht		Albrecht Consult
14	Marco Didoni		ATM (Azienda Trasporti Milnao)
15	Anders Godal Holt		NPRA
16	Gerbrand Klijn		Noord Brabant Province
17	Anton Ruijter		Municipality of Rotterdam
18	Robbert van Dijk		Province of Utrecht
19	Bram van Luipen		KpVV
20	Daniel van Motman		Municipality of Amsterdam

2.1.3. PRESENTATIONS

Link to the presentations are given below.

- Introduction to ICT-Emissions project - Zissis Samaras, LAT Aristotle University of Thessaloniki
- Selection of ITS measures for assessing their impact on CO2 emissions - Silvana Toffolo, Iveco
- Madrid case study - Cristina Valdes, TRANSyT-UPM, & Jose Pino Alvarez, Madrid Calle 30
- Methodological approach - Zissis Samaras, LAT Aristotle University of Thessaloniki

The powerpoint presentations can be found on the project website at http://www.ict-emissions.eu/join-the-exploitation-group/meetings/

1st ICT-Emissions Exploitation Group workshop in Amsterdam, October 17th 2012 - Minutes

1. Results of the Meeting

Not all items were discussed in the order presented

2. Welcome

Sylvain and Zissis Samaras welcomed all partners to the ICT-EMISSIONS meeting.

Sylvain Haon expresses the need to establish a strong cooperation with European projects and initiatives, and for Polis to add to this cooperation with the CONDUITS project. ICT Emissions is complementary of CONDUITS, which is well known to the participants to the meeting, as CONDUITS has not looked at CO2 emissions in its attempt to assess the impact of ITS on a number of Key Performance Indicators.

ICT-Emissions will work with models, including traffic simulation models.

The goals of the meeting are introduced by Sylvain Haon. It is stressed that this first meeting is mainly about giving an overview on the project to local authorities, and present what some cities (Madrid) are doing in this respect. Feedbacks from the participants on the project goals and approach are expected during the discussions.

3. Introduction to ICT-Emissions project

The project was presented by Zissis Samaras, for details please see the presentation.

Professor Samaras stressed among other things, that:

- The AMITRAN project runs in parallel. There is a strong need for both projects to discuss and explore possible cooperation and coordination.
- ICT-Emissions has now completed year one. The strong technology aspects in the project are underpinned by the partnership.
- There is a clear technology focus in the project!
- The project contributes to the ERTRAC objectives of moving towards the decarbonisation of road transport.
- ICT aims at developing an integrated methodology with clear look at the future.

- regarding the state of the art, there exists already validation of models for driver behaviour, emission and energy consumption modeling are missing in the whole exercise. ICT-emissions mainly wants to put together existing tools.

- ICT-Emissions will look at passenger cars, trucks only at macro level. It limits itself to the urban scale. ICT measures categories taken into consideration include Eco-driving, traffic management, navigation systems, demand and access management.

- Final, professor Samaras provides an overview of the role of the exploitation group in advising the project and supporting the exploitation of its results, considering their take up by members of the group.

Questions & Answers:

Q: Michael Aherne: Question about slide on Integrated Approach. To what extent will be the methodology sensitive to the other items that are influencing the CO_2 emissions.

A: Not all are considered in depth. Items such as vehicle technology, vehicle renewal will be taken into account in a sensitivity analysis.

Q: Gideon Biegstraaten: How to get involved into the project?

A: Those who provide data/input will have access to the results. But there are some limitations when it comes to commercial tools. Members of the Exploitation Group will be informed of progress and invited to provide inputs to the project.

4. ITS-Measures

The ICT-Measures and the way the project is taking them into account have been presented by Silvana Toffolo, for details please see the presentation.

- Mrs Toffolo explains that a detailed description of ICT categories is taken into account.

- She explains how and with which models the impacts will be assessed.

- The project looks at measures and how to model them, also taking into account what other projects do, what measures they are looking at.

- ICT Emissions works on the model integration at the micro level.

Questions & Answers:

Q:: How many of the ICT measures presented are applicable in cities?

A: This depends strongly on how advanced a city is. Furthermore there are street categories that are also part of a city although they are no classical urban streets (e.g. urban highways).

Q: Gideon Biegstraaten: Do we expect differences between standard navigation systems with Green navigation systems?

A: There are surely cases where there will be differences.

Q: Hanfried Albrecht: The EASYWAY project proposes a classification of roads (e.g. road conditions, probability of accidences). Are such classifications of interest for ICT-EMISSIONS?

A: A: Yes, this is of interest. The project will link consider investigate the EASYWAY classification in the nearest future.

5. Madrid case

The use cases planned for Madrid have been presented by Christina Valdez and José del Pino, for details please see the presentation.

- M30 will be the case study. The motorway divides the city into the inner and outer city.
- Two cases studies:
    1. Urban corridor, three corridors with big roundabouts and crossings;
    2. 2. Ring motorway section.
- Results from small scale pilot case in M30 west section (6km): Reduction of speed limit show that this affect traffic flow & may have impact on fuel consumption.

Questions & Answers:

Q: How do you address the fact that models can not cover all events, which may lead to distorted results ?

A: We need to collect driver behaviour data in the real world, this is foreseen by the project, to reduce uncertainty as much as possible.

6. ICT-Emissions methodology

The introduction on methodology was presented by professor Zissis Samaras, for details please see the presentation

- Professor Samaras explains the methodology, the difference between micro and macro scale simulation, and the ambition of ICT-Emissions in establishing a link between the two.

7. AMITRAN project presentation.

In addition to what ICT-Emissions will do AMITRAN will focus on how to scale up th impact of ITS on CO2 emissions at the level of the transport system. It will focus on passenger cars, freight, multimodal transport and two wheelers, setting up 4 use cases for validation.

8. Conclusion

The meeting ended with open questions to the audience:

- Feedback on the project/concept: Do you expect the project results to be of interest and use for cities and regions ?

- ICT-Emissions will try to simulate cases and create a database. Is this of any interest to public authorities? It is the goal of the project to make data available to everybody.

ICT-Emissions is interested in collecting from cities data corresponding to situations before and after the implementation of ITS measures to establish comparison and better assess the impact of these measures.

Anders Holt from Norway comments that while CO2 reduction is an objective for some local authorities, priority in many cases is given to the improvement of air quality and in particular to the reduction of NOX.

Sylvain Haon comments that if this is true in many cases, through initiatives such as the Covenant of Mayors thousands of cities and regions across the EU have taken commitments to reduce CO2 emissions and should therefore be interested in methodology supporting them in assessing the impact of measures such as ITS in achieving their goals.

At the end of the meeting, some cities consider that they want to wait for more results from the project to be presented before they can assess whether this could be of direct interest and use for them. Among those, there is a concerned, expressed in

particular by Dublin.

Other expresses a stronger interest and wants to discuss further with the project on how they can benefit from it, share data and exploit the results. This is the case of Rotterdam in particular, but also of Milan and Utrecht. Rotterdam has a strong interest since the city has the high ambition of reducing its CO_2 ambition, and has included this objective in a vision for the future. It is integrated as one of the goal of the transport strategy of the city.

End of minutes

2.1.4. IMPRESSIONS FROM THE WORKSHOP

Figure 1: Prof. Zissis Samaras, project coordinator

Figure 2: ICT-Emissions Exploitation Group workshop in Amsterdam

Figure 3: Amsterdam Traffic Control Centre

2.2. SECOND WORKSHOP IN BRUSSELS, 7TH MARCH 2013

The second meeting of the ICT-Emissions exploitation group took place on March 7th, 2013 at the Polis network premises in Brussels.

In this meeting Professor Zissis Samaras, from Aristotle University of Thessaloniki (Greece) – also the project coordinator – presented the energy and emissions modeling approach developed in ICT-Emissions; Ms Silvana Toffolo from IVECO (Italy) illustrated the selection of ICT measures for assessing their impact on CO_2 emissions. Two representatives from EU funded projects Amitran (Assessment Methodologies for ICT in multi-modal transport from User Behaviour to CO_2 reduction) and ECOSTAND were invited to attend the workshop in presenting Amitran's assessment methodology for determining the impacts of ICT or ITS on energy efficiency and CO_2 emissions in the transport sector.

The exploitation group meeting was attended by 24 delegates, representing public authorities (Rotterdam, Zurich, Agence Wallonne de l'Air et du Climat, the Dutch agency Rijkswaterstaat which is part of the Dutch Ministry of Infrastructure and the Environment), the automotive industry and OEMs (Toyota Motor Europe, Magneti Marelli), AVL, the Fédération Internationale de l'Automobile (FIA), Aimsum (transport modelling software), TNO (Dutch Organization for Applied Scientific Research), TECNALIA (private Technology Centre in Spain devoted to applied research), NOKIA, the European Federation of Leasing Company Associations (Leaseurope).

This second ICT-Emissions exploitation group meeting was meant at presenting the project and its methodology to the Advisory Board members and establishing a fruitful cooperation with Amitran for the development of a common roadmap. It also aimed at engaging with the automotive industry and OEMs in order to receive feedback on the project activities and outputs.

2.2.1. WORKSHOP PROGRAMME

The workshop agenda is shown below.

Table 3: Agenda 2nd workshop, 7th March 2013

Time	Topic	Presenter
10.30	Welcome and introduction to the meeting	
10.10	ICT-Emissions project Vision, conceptual framework, objectives of the project and overall modeling architecture	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
10.40	Traffic modelling aproach The micro-modelling methodology	Silvana Toffolo, IVECO
11.05	Energy and emissions modeling approach Tools, data and models	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
11.30	Feedback from Exploitation Group and discussion	
12.00	"The complete picture" - Adding non-urban and multi-modal transport	Gerdien Klunder, TNO
12.30	Lunch break	
14.00	Creation of a common Amitran & ICT-Emissions Roadmap: Joining forces	Proposal from Amitran
14.30	Discussion	
15.30	End of meeting	

The agenda is also available online ICT-Emissions agenda exploitation group meeting 7032013

2.2.2. PARTICIPANTS

The list of attended at the first ICT-Emissions Reference Group meeting is shown below.

Table 4: List of attendees at first workshop

N.	Name	Initials	Affiliation
1	Zissis Samaras	ZSa	LAT, Aristotle University of Thessaloniki
2	Sylvain Haon	SHa	Polis
3	Florinda Boschetti	FB	Polis
4	Hermann Heich	HHe	Heich Consult
5	Silvana Toffolo	STo	IVECO
6	Gerdien Klunder		AMITRAN/TNO
7	Anton Ruijter		Municipality of Rotterdam
8	Thomas Benz		AMITRAN/PTV
9	Danis Bollea		Magneti Marelli
10	Victor Brangeon		FIA
11	Jordi Casas		Aimsun/TSS
12	Muriel Desaeger		Toyota Motor Europe
13	Anne Dijkstra		Rijkswaterstaat (NL)
14	Rene Huber		City of Zürich
15	Andres Monzon	AMo	UMP
16	Ahmed Nasr		Nokia
17	Reinhard Tatschl	RTa	AVL
18	Wim Verhoeve		Agence Wallonne de l'Air e du Climat (AWAC)
19	Andrew Winder		ERTICO
20	Eline Jonkers		AMITRAN/TNO
21	Txocmin Rodrigues		AMITRAN/Technalia
22	Steven Devloo		Leaseurope
23	Keith Mc Cabe		KAM-Futures/ ITS-UK carbon working group, Remote participation

2.2.3. PRESENTATIONS

Link to the presentations are given below.

- Development of a methodology and tool to evaluate the impact of ICT measures on road transport emissions - Prof. Zissis Samaras, LAT Aristotle University of Thessaloniki
- Traffic Modelling Approach-The micro-modelling methodology - Silvana Toffolo, Iveco
- CO_2 Assessment of ITS: The complete picture The Amitran project - Gerdien Klunder, TNO
- Creation of a common Amitran and ICT-Emissions roadmap: joining forces - Thomas Benz, PTV

The powerpoint presentations can be found on the project website at http://www.ict-emissions.eu/join-the-exploitation-group/meetings/

2nd ICT-Emissions Exploitation Group workshop in Brussels, March 19th 2013 - Minutes

1. Results of the Meeting

Not all items were discussed in the order presented.

2. Welcome

ZSa welcomed all partners to the ICT-EMISSIONS meeting.

3. Introduction to ICT-Emissions project

Presentation by Zissis Samaras.

4. ITS-Measures

Presentation by Silvana Toffolo.

Questions & Answers & Statements (S):

Q: Jordi Casas: Wants to have more information about the interfaces between micro-macro models.

A: In order to get an overall assessment (as required when dealing with CO_2 that has "global" interest not local impacts) the macro modelling is needed, in case the ITS/ICT effects need to be obtained with micro models: the compliance between macro and micro need to be maintained in order to get the possibility to scaling up the micro results to the macro level. To get this, it is necessary to provide a procedure in order that the local simulation with the micro is exactly a subset of the macro level: for instance the OD mobility demand used in the micro model should be derived by the macro one.

Q: Thomas Benz: He sees close links to what AMITRAN does, and wants to have more information about the functionality of the "Traffic vs Emission model integration tool".

A: There is the need to define the fleet composition to put AVL-CRUISE in the position to model classes of vehicles. The tool or the procedure will do this categorization.

Q: Wim Verhoeve: Asked why ICT-EMISSIONS only address CO_2 and not the other pollutants.

A: The other pollutants are measured at the bench in the experimental work but this

is neither the focus nor will be included in the results of the project. The call on which we responded asked especially for CO_2 and we had to focus the project on this to make efficient use of the resources.

Q: Jordi Casas: How is the link between macro-micro traffic models done? How to cope with the fact that micro measures might affect the macro model.

A: From Macro to Micro the link is done through procedures that "cut" the OD matrices in order that the mobility demand used in the micro level is exactly the same of the Macro one. It is care of the modellers when creating the network of the two models (macro and micro) to maintain them complaint: the micro one should be a more detail version of the macro one. While the OD demand part can be done through the use of specific software tools the network compliance need a more human intervention also if some SW procedures can help also in this context.

From Micro to Macro the link will be done modifying the cost functions of macro taking into account the results obtained at the micro levels. It is a specialist work: the results will be to get proper parameters of functions for scaling up the ICT-ITS effects at the global level.

Q: Jordi Casas: What is the procedure to characterise the vehicles? At which point will the categorisation take place? Already at the Traffic Micro model?

A: Some classes need to be defined at the level of the traffic simulation tools. But a more detail disaggregation will be done through the fleet composition procedure.

S: Muriel Desaeger: The selection of the approach depends on the user we target. For a driver it should be on the single vehicle level, for a city a categorisation is sufficient.

S: Muriel Desaeger: Importance to identify the benefits of the disaggregated methods: Who is ready to take the results and convert them into products?

Q: Gerdien Klunder: How does ICT-EMISSIONS deal with the differences of fleet compositions across different countries and cities.

A: We have already a database of this vehicle composition, on the level of COPERT, for each European Country. We have to enhance the database (e.g. by adding the weight of vehicles). But we are also offering the possibility for the user to add local fleet compositions.

Q: Gerdien Klunder: Which of the use cases presented will be modelled?

A: The use case will be selected among the ones presented: most of the cases listed as potential "use cases"will be simulated. Take into account for each one simulated ITS/ICT measures lots of scenarios have to be prepared calibrated run and analysed in term of results. This mean to have tens of simulation scenarios in total that will be done.

A: Andres Monzon explained the data collection in Turin, Madrid, Rome.

S: Anton Ruiter. Rotterdam has a CO_2 target but have Air Quality problems. They are more interested in AQ rather than in CO_2. Their restricted traffic zones and UTC are of highest interest. The traffic interventions for the restricted traffic zones are based on pollutant emission level, not on CO_2.

S: Rene Huber: Zurich is yet more interested in CO_2 (2000-Watt society) than Rotterdam, especially when it comes to trade-off between traffic, emissions and fuel consumption.

All participants confirmed that they consider the ICT-emissions methodology presented of great interest.

5. Energy and emissions modelling approach

Presentation by Zissis Samaras.

Questions & Answers:

Q: Ahmed Nasr: Nokia have large amounts micro scale speed profiles originating from navigation (NAVTEQ) available.

A: It needs to be clarified whether we are talking about the same data. Has Nokia information about road-classifications associated to the speed profiles? Can ICT-Emissions have access to these data.

A: Ahmed Nasr: The driving profiles can be made available. Nokia is interested in a cooperation.

Q: Ahmed Nasr: The sustainability unit at Nokia is working on a new protocol on ITS projects based on the International Telecommunication Union (ITU), especially on navigation. He offers to include us in the communications.

6. The Complete Picture AMITRAN project

Presentation by Gerdien Klunder.

Questions & Answers:

Q: How to include the ICT-emissions eco-driving emission customised functions in VISSIM simulation tools?

A: PTV can develop APIs including the GIPPS models in VISSIM.

7. AMITRAN Roadmap

Presentation by Thomas Benz.

The discussions on possible cooperation between ICT-Emissions and AMITRAN focused on the selection of one test case of ICT-Emissions and show how the ITS assessment will be done, according to ICT- Emissions and according to AMITRAN. The steps of this cooperation could be:

- Use categorisation of ECOSTAND/AMITRAN
- Choose models and model chain
- Which interfaces are needed?
- Validation

It was common sense that this approach needs real world data for validation. We should select a case with- and without ITS-measure.

ZSa pointed out that we should not use the same data that we use for our internal model calibration to validate the methodologies. This is necessary to have an independent validation.

Thomas Benz is involved in the project DRIVE C2X on Field Operational Tests on cooperative systems and has an insight in data availability from their tests. He thinks that data can be made available for AMITRAN and ICT-Emissions.

S: Sylvain Haon: Stated that the support action FOT-NET can be approached to sort out these things.

The joint assessment will result in some additional work for both projects. We need to take care that this common work does not add too much workload on the partners that have to run the models and evaluate the results.

The next step is to agree on a date and venue for a meeting to agree on the details.

Final statements:

- Rotterdam: Are ready to investigate to which level it is possible to support ICT-Emissions with use cases and data. They have the possibility to monitor data with and without interventions.
- Rijkswaterstrat: Have no data available so far, need to investigate this further.
- TSS: found the discussion on the modelling details very fruitful. Is interested in further collaboration.
- Anders Holt from Norway comments that while CO_2 reduction is an objective for some local authorities, priority in many cases is given to the improvement of air quality and in particular to the reduction of NO_X.

- Sylvain Haon comments that if this is true in many cases, through initiatives such as the Covenant of Mayors thousands of cities and regions across the EU have taken commitments to reduce CO_2 emissions and should therefore be interested in methodology supporting them in assessing the impact of measures such as ITS in achieving their goals.

At the end of the meeting, some cities consider that they want to wait for more results from the project to be presented before they can assess whether this could be of direct interest and use for them. Among those, there is a concerned, expressed in particular by Dublin.

Other expresses a stronger interest and wants to discuss further with the project on how they can benefit from it, share data and exploit the results. This is the case of Rotterdam in particular, but also of Milan and Utrecht. Rotterdam has a strong interest since the city has the high ambition of reducing its CO_2 ambition, and has included this objective in a vision for the future. It is integrated as one of the goal of the transport strategy of the city.

End of minutes

2.2.4. IMPRESSIONS FROM THE WORKSHOP

Figure 4: The audience

Figure 4: From left to right: Silvana Toffolo (IVECO), Prof. Andrés Monzón (TRANSyT), Thomas Benz (PTV), Gerdien Klunder (TNO)

Figure 5: From left to right: Thomas Benz (PTV), Gerdien Klunder (TNO), Jordi CASAS (Aimsum)

Figure 6: From left to right: Jordi CASAS (Aimsum), Ahmed Nasr (NOKIA), Anne Dijkstra (Rijkswaterstaat)

Figure 7: Thomas Benz presenting ECOSTAND project

2.3. THIRD WORKSHOP IN BRUSSELS, 13TH NOVEMBER 2013

The third exploitation group meeting took place on November 13th, 2014 at the Polis network premises in Brussels.

In this meeting we have presented the project latest developments, notably the analysis conducted in the three case studies in Rome, Turin and Madrid; the ICT-Emissions driving cycles; the Draft Library with Driving Situations, followed by Evaluation Plan for testing the impacts of ITC/ITS measures on mobility and CO_2 emissions; the driver simulator and simulation of ADAS vehicles in micro-traffic environments and the ICT-Emissions model integration.

The exploitation group meeting was attended by 21 delegates, representing public authorities (Rotterdam, Zurich, Agence Wallonne de l'Air et du Climat), the automotive industry and OEMs (Toyota Motor Europe, Bosch), software suppliers (AVL, B&M), TNO (Dutch Organization for Applied Scientific Research).

This third meeting was meant to present new project achievements to our advisory board members and continue the conversation on exploitation opportunities.

2.3.1. WORKSHOP PROGRAMME

The workshop agenda is shown below.

Table 5: Agenda 3rd workshop, 13th November 2013

Time	Topic	Presenter
9.30	ICT-Emissions project Introduction: Purpose and format of the workshop	Prof. Zissis Samaras, LAT, Aristotle University of Thessaloniki
9.45	Madrid, Turin and Roma case studies: analysis conducted and next steps	Prof. Andres Monzon, UPM, Massimo Cocozza, 5T, and Laura Borgarello, CRF
10.15	ICT-Emissions driving cycles	Laura Borgarello, CRF
11.35	Development and use of the vehicle energy/emission simulator in ICT-Emissions	Christian Vock, AVL, and Prof. Leonidas Ntziachristos LAT
11.00	Draft Library with Driving Situations	Prof. Leonidas Ntziachristos LAT
12.00	"The complete picture" - Adding non-urban and multi-modal transport	Gerdien Klunder, TNO
11.15	Evaluation Plan for testing the impacts of ITC/ITS measures on mobility and CO2 emissions	Massimo Cocozza, 5T
14.00	Creation of a common Amitran & ICT-Emissions Roadmap: Joining forces	Proposal from Amitran
11.30	Discussion	
12.15	Lunch break	
13.00	Driver simulator and simulation of ADAS vehicles in micro-traffic environments	Dr. Werner Maier, Berner & Mattner
13.30	ICT-Emissions Model Integration	Silvana Toffolo, IVECO
13.50	Common Amitran & ICT-Emissions Roadmap	
14.05	Discussion	
15.00	Wrup up conclusions & End of meeting	

The agenda is also available online ICT-Emissions agenda exploitation group meeting 13112013

2.3.2. PARTICIPANTS

The list of attended at the first ICT-Emissions Reference Group meeting is shown below.

Table 6: List of attendees at first workshop

N.	Name	Initials	Affiliation
1	Zissis Samaras	ZSa	LAT, Aristotle University of Thessaloniki
2	Leonidas Ntziachristos	LNt	LAT, Aristotle University of Thessaloniki
3	Alvaro Garcia	AGa	UPM
4	Andres Monzon	AMo	UPM
5	Fiamma Perez		UPM
6	Christian Vock		AVL
7	Florinda Boschetti	FB	Polis
8	Laura Borgarello		CRF
9	Hermann Heich	HHe	Heich Consult
10	Werner Maier		B&M
11	Massimo Cocozza		5T
12	Silvana Toffolo		IVECO
13	Muriel Desaeger		Toyota Motor Europe
14	Gerdien Klunder		AMITRAN/TNO
15	Christian Heimgartner, (Remotely)		City of Zurich
16	Olivier Biernaux		Agence Wallone de l'Air et du Climat (AWAC) Belgium
17	Andrew Winder		ERTICO
18	Anton Ruiter		Rotterdam
19	Winfried Keiper		Bosch

20	Giorgio Magra (remotely)		IVECO
21	Niv Eden (remotely)		Technion

2.3.3. PRESENTATIONS

Link to the presentations are given below.

- ICT-Emissions project Introduction: Purpose and format of the workshop - Prof. Zissis Samaras, LAT Aristotle University of Thessaloniki
- Madrid case study analysis conducted and next steps - Prof. Andres Monzon, TRANSyT-UPM
- Turin case study: analysis conducted and next steps - Massimo Cocozza, 5T
- Rome case study: analysis conducted and next steps - Laura Borgarello, CRF
- ICT-Emissions driving cycles - Laura Borgarello, CRF
- Development and use of the vehicle energy/emission simulator in ICT-Emissions - Christian Vock, AVL, and Prof. Leonidas Ntziachristos LAT
- Draft Library with Driving Situations - Prof. Leonidas Ntziachristos, LAT
- Evaluation Plan for testing the impacts of ITC/ITS measures on mobility and CO2 emissions - Massimo Cocozza, 5T
- Driver simulator and simulation of ADAS vehicles in micro-traffic environments - Dr. Werner Maier, Berner & Mattner
- ICT-Emissions Model Integration - Silvana Toffolo, IVECO
- Common Amitran & ICT-Emissions Roadmap - Gerdien Klunder, TNO

The powerpoint presentations can be found on the project website at http://www.ict-emissions.eu/join-the-exploitation-group/meetings/

3rd ICT-Emissions Exploitation Group workshop in Brussels, November 13th 2013 - Minutes

1. Results of the Meeting

Not all items were discussed in the order presented.

2. Welcome

Zissis Samaras welcomed all partners to the ICT-EMISSIONS meeting.

3. Introduction to ICT-Emissions project

Presentation by Zissis Samaras, for details please see the presentation.

4. Madrid, Turin and Rome case studies

Presentations from Andres Monzon, Massimo Cocozza and Laura Borgarello, for details please see the presentations.

Questions & Answers & Statements (S):

Q: Anton Ruiter Rotterdam asks whether the benefits presented in Turin consider all cars?

A: Yes, for all cars.

S: ZSa stated that we have collected a wealth of data collecting not only data on driving conditions but also fuel consumption simultaneously. These data will be made available in a public database. In addition, the results from the experiments were used to develop driving cycles and to calibrate models in ICT-EMISSIONS.

5. ICT-Emissions driving cycles

Presentation by Laura Borgarello for details please see the presentation.

Questions & Answers:

S: ZSa summarized the potential use of these cycles. Possible use can be in the course of pre-evaluation of ITS tools, in cases where no field tests are possible.

6. Development and use of the vehicle simulator

Presentation from Christian Vock, for details please see the presentation.

Questions & Answers:

None.

7. Evaluation Plan for impact assessment

Presentation from Massimo Cocozza, for details please see the presentation.

S: ZSa reflected on the number of cases/scenarios proposed in the evaluation plan (last slide). This is an ambitious plan set up from the viewpoint of City/user. Putting this into practice we need also take into account different saturation levels, fleet compositions etc. Question to the participants whether there are views opinions on which cases we should concentrate.

Muriel Desaeger: Considers the results to be proposed are very important. Wants to see the accuracy of the results as one way to prioritizes. City control (from view of city users) and cruise control (technology oriented, for manufacturers view). Recommended to have a good combination of results, because both "users" are of importance.

Indicators on acceleration/deceleration should be considered because this is important from the fuel consumption and emissions.

Winfried Keiper: is concerned about the statistical parameters and significance. Especially experimental data need to consider the error margins accuracy/uncertainties considerations. In case such evaluations are missing the credibility of the ICT-EMISSIONS might suffer in the future.

8. Draft Library with Driving Situations

Presentation from Leonidas Ntziachristos, for details please see the presentation.

Questions & Answers:

Q: Muriel deSaeger: How to get accurate data from real life e.g. AQ data from Satellite/Remote Sensing. A possible application for this can be model validation.

A: No we don't intend to use such data methods. But we are aware about such initiatives.

Winfried Keiper: Emissions and AQ are closely related why not making an attempt to take this into account.

9. Discussion on the possibility to use AQ as validation

Answer: No possibility in ICT-EMISSIONS because we concentrate on CO2 only. But there are severe scientific reasons for not going in this direction of validation. The spatial and temporal resolution of such data is insufficient (refer to GMES/COPERNICUS). Would be a project in its own.

10. Driver Simulator / ADAS

Presentation from Werner Maier, for details please see the presentation.

Questions & Answers:

Q: ZSa asked for explanation about the penetration rates (slide 17). What is the accuracy/uncertainty of the results presented.

A: We need to add statistical evaluations of the tests to assess uncertainty.

Q: ZSa which engine is behind the results presented.

A: So far a standard Diesel engine (Golf class) was used. There is the possibility to use other engines vehicles.

Q: How are the vehicles without ADAS treated in the simulation?

A: A certain mix of aggressive, normal and non-aggressive is introduced to the simulation. As the ADAS penetration is increased the other vehicles are reduced.

Q: Christian Heimgartner: With regard to City traffic scenario: do we have an impression how big the effect of probable oversaturated traffic situation on the results is?

A: No, so far we have no firm answer on this question. The impact on extremely saturated conditions will be taken into account when we run the scenarios. We take this issue as an input to our work on assessment of results.

Due to communication problems with the system we agreed that Christian will formulate additional questions / suggestions by mail. We will react on this by writing or calling making sure that his suggestions are taking into account.

11. ICT-EMISSIONS Model Integration

Presentation from Silvana Toffolo, for details please see the presentation.

12. Common Amitran & ICT-Emissions Roadmap

Presentation from Gerdien Klunder.

Questions & Answers:

Q: ZSa asked information about the VISSIM and ADAS interface.

A: Gerdien Klunder will make sure to deliver this specification as soon as they are available.

Q: ZSa under which umbrella will the Data Repository proposed by ECOSTAND be created.

A: No clear plans exist so far.

Olivier Biernaux: Was interested in the combination of Micro and macro modeling. There are more and more data on the micro level available, so far it is difficult to introduce these data into a macro emissions inventory (on Belgium scale). He hopes to get a deeper insight in this.
CO_2 is in the focus, but the highest priority is on pollutants instead of CO_2.

Anton Ruiter: Was pleased to see the development of ICT-EMISSIONS since the last meeting. Wants to see how the methodology can be applied in the Urban context and used for policy making. Rotterdam has the target to reduce CO_2 emissions by 50% in 2025.

Winfried Keiper: Interested to see how the vehicle related developments took place. These vehicle related IT development are of interest for Bosch.

Andrew Winder: Is mainly interest in concrete results from cities and in transferring the result and findings to other cities.

End of minutes

3 Recording stakeholder feedback

Note taking by the WP leader during exploitation group meetings, supported by the technical coordination for the project for back up, is the main way used by the project to record stakeholders feedback.

In addition to this, as exploitation group workshop, starting with the second workshop, are offered via webconference systems (webex), an audio recording and video footages of the meetings are also available to improve the reliability of the stakeholder feedback reporting. Records are kept during the whole duration of the project.

Finally, it is foreseen that the input of key stakeholders in between meetings or in case of their inability to attend exploitation meetings, will be collected by questionnaire circulated by emails.

This has been agreed for instance at the end of the second meeting of the exploitation group to identify priorities of newly involved stakeholders.

Stakeholder feedback are also recorded and reported following consultation of some specific stakeholders in specific settings or opportunities.

The stakeholder feedback are processed by the WP leader and shared with all partners on a regular basis.

The coordinator and the leaders of the technical WP regularly assess how to integrate stakeholders comment in their work and whether this requires adapting some of the activities.