

Horizon 2020

Societal Challenge: Improving the air quality and reducing the carbon footprint of European cities



Project: 690105 – ICARUS

Full project title:

Integrated Climate forcing and Air pollution Reduction in Urban Systems

MS1: Kick-Off meeting

WP 9: Management and Quality Assurance

Lead beneficiary: AUTH



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1 Meeting Agenda

- **When: 1-2-3 June 2016**
- **Where: Aristotle University Research Dissemination Centre (KEDEA), Thessaloniki**

June 1

- 12.30 – 14.00 Welcome lunch
- 14.00 – 14.30 Round table of participants – getting to know each other
- 14.30 – 15.00 Climate Research Policy: ‘Houston, we have a problem’ (COM)
- 15.00 – 15.30 Successful implementation of Horizon 2020 research and innovation actions (COM)
- 15.30 – 16.00 *Coffee break*
- 16.00 – 16.40 Overview of CIAir-City (Trinomics)
- 16.40 – 17.30 Introduction to ICARUS (AUTH)
- 20.00 – 22.00 Working dinner

June 2

- 9.30 – 11.00 Exploring synergies among the 2 projects
- 11.00 – 11.30 *Coffee break*

Closed session for ICARUS team only

Main topic: Overview of ICARUS method and structure

- 11.30 – 13.00 Phase 1: Problem identification and tool development
- 13.00 – 14.00 *Lunch break*
- 14.00 – 15.30 Phase 2: Policy analysis
- 15.30 – 16.00 *Coffee break*
- 16.00 – 17.30 Phase 3: Synthesis (innovation, engagement and dissemination)
- 20.00 – 22.00 Social dinner



June 3

Closed session for ICARUS team only

Main topic: Detailed workflow analysis

- 9.30 – 10.00 WP1 – Methodological framework development
- 10.00 – 10.30 WP2 – Integrated emission modeling
- 10.30 – 11.00 WP3 – Integrated atmospheric modeling
- 11.00 – 11.30 *Coffee break*
- 11.30 – 12.00 WP4 – Population exposure and health impact assessment
- 12.00 – 12.30 WP6 – Developing pathways to green, smart and healthy cities
- 12.30 – 13.00 WP8 – Dissemination, communication and involvement of stakeholders
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- 13.00 – 14.00 *Lunch break*
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- 14.00 – 14.30 WP5 – Integrated assessment for short to medium term policies/measures
- 14.30 – 15.00 WP7 – Motivating citizens towards the vision
- 15.00 – 15.30 General technical management issues – technical reporting/meetings
- 15.30 – 16.00 *Coffee break*
- 16.00 – 16.30 General financial management issues – financial reporting
- 16.30 – 17.00 Concluding remarks - Closure

2 List of participants

Last Name	First Name	Affiliation
SOULOS	Themistoklis	ARTEMIS AEROSURVEY
GAITANI	ANGELA	Athens Development and Destination Management Agency SA
RINKE	Rayk	City of Stuttgart
BOLSCHER	Hans	CLAiR-City - Trinomics
ANDRIELOU	Maria	EnvE Lab - A.U.TH.
CHAPIZANIS	Dimitris	EnvE Lab - A.U.TH.
GOTTI	Alberto	EnvE Lab - A.U.TH.
KARAKITSIOS	Spyros	EnvE Lab - A.U.TH.
KERMENIDOU	Marianthi	EnvE Lab - A.U.TH.
SARIGIANNIS	Denis	EnvE Lab - A.U.TH.
TEN DONKELAAR	Michael	ENVIROS s. r. o
HARNYCH	Jan	ENVIROS s. r. o
GERMAGNOLI	Fabio	Eucentre
MANZO	Luigi	Eucentre
DALAN	Fabio	European Commission - EASME
DOS SANTOS-ALVES	Saul Garcia	Instituto de Salud Carlos III
SCOCCIMARRO	Enrico	Istituto Nazionale di Geofisica e Vulcanologia
HORVAT	Milena	Jožef Stefan Institute
KOCMAN	David	Jožef Stefan Institute
KONTIC	Branko	Jožef Stefan Institute
KARTERIS	Apostolos	KartECO
KARTERIS	Marinos	KartECO
TSIROS	Emmanouel	KartECO
TZIMOU	Roxani	MESAEP
MAGGOS	Thomas	National Centre for Scientific Research Demokritos



VASILAKOS	Christos	National Centre for Scientific Research Demokritos
KLANOVA	Jana	RECETOX - Masaryk University
PŘIBYLA	Vojtěch	RECETOX - Masaryk University
VIENNEAU	Danielle	Swiss TPH
SABEL	Clive	University of Bristol
SMITH	Lauren	University of Bristol
HISCOCK	Rosemary	University of Bristol
TAYLOR	Timothy	University of Exeter
FRIEDRICH	Rainer	University of Stuttgart
VOGT	Ulrich	University of Stuttgart
SCHIEBERLE	Christian	University of Stuttgart
CHASAPI	Filitsa	UPCOM Bvba
FLOKOS	Kostas	UPCOM Bvba
FLOKOU	Sofia	UPCOM Bvba



3 Summary of the main decisions

- Collaboration with CLAiR-City:
 - CLAiR-City and ICARUS teams in the two common cities (Bristol and Ljubljana) should meet asap to discuss what can be done on the city level in terms of cooperation
 - For the common cities: **Clive and Milena will get in touch with Bristol and Ljubljana** city authorities respectively.
 - We share a list of partners in our projects. We specifically ask WP leaders to talk together and think about opportunities data sharing or conditions suitable for joint work (e.g. set up a common campaign)
 - Then roughly after 6 months we will organize a meeting where we will identify what came out of these discussions.
 - At the end of the project (April 2020) we will talk about policy making being on the same table and with possibly converging suggestions for policy action.
 - The Commission can provide support in future common meetings-workshops
- JSI is currently responsible for D1.4 “A critical review on the influence of socioeconomic status in relation to exposure to air contaminants and disease causation”. **We need to change this and put University of Bristol responsible for this deliverable.**
- Each participant city should gather information on what kind of data is available. Local city partners have to take the responsibility of their own city. **A meeting/teleconference has to be organized on how to approach the cities (end of June – first half of July).** Rainer and Branko **will prepare a document** to be shared with partners before the teleconference in order to facilitate the discussion.
- NCSR D suggested to have **a telco before summer** (WP3 has a deliverable at months 6 about climate data and climate indicators at the regional and local scale, together with a technical report describing the dataset).
- Every partner should fill a **template which will be circulated by NCSR D** providing info on the labs capabilities.
- Climate modelling tools. Are we going to use the same meteorological parameters for all 9 case cities? Can we have as soon as possible a list with these parameters needed so that we start gathering necessary info? Spatial resolution? What about the time resolution of the data we need. Set up **a telco to talk about climate modelling ASAP.**
- We soon need to make a plan about purchasing sensors (WP4)
- **All** provide your thoughts and ideas regarding any of the strategic (common) topics of ICARUS, i.e., WP5 preferably **by the end of July** (M3) to the following addresses:
 - Branko.Kontic@ijs.si ; Davor.Kontic@ijs.si; David.Kocman@ijs.si

The **JSI will contact WP5 Task leaders, as well as leaders of other WPs, to further clarify links and activities.** Please provide names and e-mail addresses. The JSI will provide suggestions for the near future communication in the WP5.



- AUTH: to create a matrix to highlight and understand interconnections: **a flowchart between deliverables.**
- ARTEMIS would like to be involved in Task 5.2 and Task 7.2
- UPCOM and kartECO to stay in constant touch with the modellers/researchers to collect info (I/O) on model and dataset available within the consortium
- We need to start developing the **project web site and to set up a twitter account.**
- Coordinator has to be informed of any dissemination event.
- Draft mailing lists for individual WPs or a list with the whole team
- Internal progress report: every 6 months



4 ICARUS launch meeting and workshop

4.1 1 June 2016

At 02:00 PM the chairman Prof. Denis Sarigiannis (Coordinator of the project) opened the meeting and welcomed the participants. The chairman asked the attending partners to briefly introduce themselves and their institution.

More details concerning the individual points listed in this document can be found in the slides of the individual presentations which will be made available in the project web site.

Successful implementation of Horizon 2020 research and innovation actions - Fabio Dalan (EASME)

ICARUS is expected to come up with products that can be delivered to the market. To this aim innovation aspects play a fundamental role. It is also extremely important to engage the citizens and cities: they should be engaged from the beginning of the project.

EASME is in charge of Projects' implementation. Its role is to prepare the Grant Agreement, to monitor scientific/technical and financial issues and to support exploitation and dissemination of project results providing policy feedback.

Project implementation foresees a number of mandatory actions:

- We need to guarantee open access to research data. This has to be detailed in the Data management plan (DMP) whose first version has to be delivered at Month 6. It has to be a living document which should be updated during the project execution. (i.e. every periodic reporting period)
- Communication: we must promote the action and its results by providing targeted information to multiple audiences (scientific community, but also various stakeholders policy makers, general public). Communication has to be targeted both in the format and language. EASME can help in the dissemination through its contact with Enterprise Europe Network (EEN). We need to inform the EASME before engaging in a communication activity expected to have a major media impact (e.g. national/international events). We have to use the EU emblem in all the dissemination and communication material produced.
- Obligation to comply with ethical principles. We need to mention how we obtained the data; where they are stored; who has access to them; informed consent. Several ethics deliverables are included in the GA. EASME is willing to provide help on this issue.
- Reporting and Financial Issues. We need to keep records and supporting documents. We always need to fill timesheets (not necessary for staff working full time for the project).

Continuous reporting through the Sygma portal (where to upload deliverables and periodic reports). We have three reporting periods (M12, M30 and M48). Periodic technical and financial reports must be submitted by the Coordinator within 60 days after the end of each reporting period.

Overview of CLAiR-City - Hans Bolscher (Project Director of CLAiR-City)



CLAiR-City encompasses 16 Partners; Trinomics is the project coordinator: 4 cities and 2 regions: Amsterdam, Bristol, Ljubljana, Sosnowiec, Intermunicipal Community of Aveiro Region, Liguria Region.

Citizen behaviour is at the heart of CLAiR-City. They will invite thousands of people to give their opinions on air pollution and carbon reduction in their city so as cities can become more pivotal in influencing European policy – get more support from the Commission in terms of policy making.

Cities and citizens are in the centre of their research objectives. To this aim they selected with different social, economic and health challenges.

- Initiating new modes of engaging citizens through innovative ways (e.g. apps, games, talk to youngsters, older people)
- Research is not driven by technology or source but by citizens' behaviour and daily activities: They will research for example how and when the car is used, not the car itself. How and why a house is heated in a certain way, not the machine

Discussion

This presentation provided many hints for further collaborations with CLAiR-City. Clearly the two projects have different approaches, nonetheless we have to reinforce collaboration and create synergies. It has been underlined that there are two overlapping cities (Bristol, Ljubljana). It is necessary that we come with some alignment regarding the two common cities. To this aim Mr. Sabel and Mrs. Horvat will need to get in touch with Bristol and Ljubljana city authorities for data sharing and also to avoid duplication of work and efforts (e.g. a single campaign rather than two). CLAiR-City will expect cost benefit analysis to be at the core of the project, rather they will provide cities and citizens practical advices, not so much info on the costs involved. CLAiR-City approach will be tailor made for every city even though some of the instruments (game, app, school competitions, engaging with the elderly) will be used in all cities most probably in the same way. For CLAiR-City the number of citizens involved is the main priority. Reduction of air pollution is in the project but we they will not spend so much time measuring it. Policy packages and the examination of potential scenarios is the core of the project. CLAiR-City has policy makers on board. They will be strongly involved to follow the progress step by step.

Introduction to ICARUS - Denis Sarigiannis (ICARUS Project Coordinator)

Mr. Sarigiannis provided an overview of the main objectives of ICARUS and of the structure workflow pointing out the links and connections between the different Workpackages. We can see ICARUS as composed by four main blocks: The methodology development (WP1); the tool development (WP2, WP3 and Wp4); the policy analysis (WP5 and WP7) and the Innovation and dissemination (WP7 and WP8).

Overall the main objective is to quantitatively assess the impact of current and alternative national and local policies on reducing GHGs emissions and improving AQ. To this aim we need to evaluate the future public health and well-being impacts of policies and measures in European cities so as to propose measures of technological and non-technological nature to reduce both carbon footprint and air quality burden (win-win solutions). On a longer term we plan to develop visions of green cities with clean air, and maximal wellbeing and propose transition pathways for the realization of these visions in the next 50 years.

At the same time innovation and stakeholders engagement (including citizens) has to be seen as a central theme in the project. We plan to use citizens as researchers.



As cities partners we have Athens and Stuttgart and then a network of cities based on the project partners (Madrid, Basel, Pavia etc.). At some point we might need to formalize this collaboration.

End of 1st day.

4.2 2 June 2016

Exploring synergies among the two projects

Some common points between the two projects are the strong focus on citizen engagement, the common cities (Bristol and Ljubljana) for which data sharing would be of great interest and the exchange of information in/within the non-common cities.

However, potential limitations should be also considered. Among them is that we both will work with data where we'll have privacy issues. On a second note, we are looking whether we can take this further after the project. We do not want to end up with competing companies. Also, we need to align the work (especially with regard to approaching citizens) in an optimal way to have a more effective collaboration. We have to avoid to the projects end up with different policy packages suggested.

Our communication teams should be engaged in a common dialogue. The way we approach complexity is to target it at the earliest stage possible. We can summarize as follows:

- 1 We can agree that our teams in both common cities should meet asap to discuss what can be done in a city level in terms of cooperation.
- 2 We share a list of partners in our projects. We specifically ask WP leaders to talk together and think about if there is an opportunity of data sharing or if there are condition suitable so that for example we have a common field campaign.
- 3 Then roughly after 6 months we will have a meeting where we will identify what came out of these discussions.
- 4 Organize common events such as workshops. The Commission could provide support for these future meetings-workshops.
- 5 At the end of the project (April 2020) we will try to talk about policy making being on the same table.

With regard to the cooperation with the third project (i.e. iSCAPE) the idea is to set up a teleconference. Then they can join us in the workshop in 5-6 months from now.

Problem identification and tool development

In ICARUS we will base our estimations on primary pollutants (NO_x, PM_x, SO₂, NMVOC, NH₃, noise) and priority GHGs: CO₂, N₂O, CH₄, BC, NMVOC (ozone), NO_x (ozone). But when we assess future effects, other chemicals (e.g. PM chemical speciation) will be taken into consideration.

Quality control of the data is important and we need to have the criteria to evaluate their quality. On one hand you get info from regulatory networks and on the other from studies. We need to have the criteria to evaluate the quality. In any case it is better to balance between quality and inclusion of data.



The primary exercise is to collect data that already exist. Then we will execute AQ and GHGs field campaigns to fill in gaps that already exist.

Firstly each participant city should gather information on what kind of data is available. Then we can have a clear picture on what information or policies are missing.

The next step is the question of personal exposure assessment. Here we will combine a number of emerging techniques such as Agent Based Modelling. Moreover, we will have campaigns in cities with personal sensors. We also need to consider the possibility to use wearable sensors that measure pollutants. Ethics issue should be addressed soon so as to not delay the execution of campaigns.

We can start campaigns asap. The important thing is to spend the time needed on data fusion so that we can give citizens back the right information. We need to immediately have some teleconferences at WP level.

Policy analysis

Policies analysis will be carried out through methods and tools developed in WPs 1 to 4. All this work takes place iteratively, not just sequentially, but more as an interaction and also as a strong, continuous interaction between the WPs and the cities. The cities will give an opinion about the feasibility of the policies. Both policies that have direct and indirect effect on the pollution and GHGs levels should be considered

First of all, we need to establish interest and content in each city, this has to be done quite soon, the cities have to find the project interesting. Local city partners have to take the responsibility of their own city. Next step is to obtain the available information. Policies and measures cannot be only measures implemented by the city authority. Also policies and measures EU-wide have to be adopted as well; long-range transport should be taken into account. Once we have done all this analysis, we need to evaluate the benefits, as utility gains, and to try to optimize the benefit against the cost. There are also a lot of political considerations to be accounted. Each city will also evaluate the feasibility of the policies and measures.

Project Evaluation Plan (PEP) is the first deliverable in WP5 (M12) and the coordinator (and also the other partners) are expected to contribute - in due time - on how to proceed with clarifying its need, purpose, and content specification. What we need to describe in the process evaluation plan is the way to do the evaluation, not to do the evaluation. This has to be done in consultation with various stakeholders. In M12, we need to describe how we are going to do the evaluation. The actual assessment has to be performed in parallel to the work in WPs. And in M42, we need to derive an overall report on the implementation. It is a bit misleading the description of D5.1; barriers and drivers will be identified during the evaluation of the feasibility of measures and policies and will be presented in a consolidated manner after the final evaluation of the policies in M42 (D5.5). We need to look for the satisfaction of the citizens. Thus, the identification of the barriers has to be clear and very specific, since we need to provide justification why something (i.e. certain measures or a policy alternative) cannot be applied in a particular city.

In the evaluation plan different indicators should be used: some of them are pretty well-known (e.g. DALYs for human health) others will have to be better identified. For example for transportation and industry related measures we need multiple different indicators. Only emission factors will not be enough, since certain measures, e.g. new cycling lanes, new pedestrian zones, allocation of future industrial zones, etc. are specifically important in terms of measuring citizens' wider satisfaction.

We need to re-run our models, in order to capture the dynamics of the reality of the society, when changes are implemented. New dynamics are created after policies (e.g. increased



construction of an area, after providing access to these areas through building a ring-road may lead to changes of spatial distribution of pollution). This interaction has to be captured quantitatively. Then this has to be translated into health effects.

The final aim is to evaluate real policies, being free to propose new policies

Synthesis (innovation, engagement and dissemination)

Some of the main innovations we see in ICARUS:

1. Cloud based solutions is missing from the market right now. This could be part of the innovation that ICARUS is bringing in.
2. Most of the tasks start with end-user requirements
3. The personalised character of the apps. Impact of individuals' actions will be analysed
4. We must tune our products according to the end users feedback.
5. Citizens motivation

On the citizens motivation: it would be better to avoid coupons or rewards. Citizens should feel integrated into the project, they should have a real role, a design role instead of just providing a service. Paying them creates already a hierarchy "we want you to do something for us". Giving citizens the status (that you're actually a member, a part of an important project) can sometimes be enough for them to feel engaged.

On another note: around creating future SMEs arising from the project: the EU strongly encourages now to go there. We think there is a number of areas where we could do something creative like apps, delivering data services to citizens. Academics are not always good at thinking about business but this project has already SMEs and we should listen to what they have to say/bring. To create a start-up is one of the final objective of CARUS.

We have to create awareness and interest in the citizens providing them with user centric tools. We could look into and use the Berkeley API and then develop our own tool. These tools can promote behavioural changes (e.g. wearing the Fitbit Flex people can be encouraged to keep themselves in good physical shape). The feedback (back to the user), provided by such user centric tools can serve as an incentive, as a driver that could force them changing their habits. To this end we can learn a lot from the CitiSense project.

We need to think to other market sections other than the citizens themselves. For example, a Taxi company could be an interested stakeholder.

Dissemination and communication are also playing a central role. We need a plan to engage stakeholders and this has to be tailored to each stakeholder group. To this aim we have a wide range of very innovative ways of dissemination. Among them the ICARUS Innovation Slams are important events. These have to bring together the ICARUS teams and the market. In each country we can organize these events addressing the private sector

End of 2nd day.

4.3 3 June 2016

4.3.1 WPs presentation

Presentation by Denis Sarigiannis (AUTH - Greece)

Leader of Workpackage 1: *Methodology framework development*

The following points were presented:

- Description of WP1. Positioning within the ICARUS project;
- Objectives
- Workplan
- Methodological approach
- Deliverables

The presentation stimulated a wide discussion and several questions were posed, among which Mrs. Vienneau asked whether there are CRFs for GHG and health effects. Mr. Sarigiannis replied that there is evidence for cognitive impairment and high CO₂ levels, but not a robust CRF. Also to derive new CRFs is beyond the scope of the project since it requires dedicated cohort studies.

It was noticed that in the current approved version of the Grant Agreement JSI is indicated as responsible for D1.4 "A critical review on the influence of socioeconomic status in relation to exposure to air contaminants and disease causation". We agreed we need to change this and put University of Bristol responsible for this deliverable.

Presentation by Rainer Friedrich (USTTUT - Germany)

Leader of Workpackage 2: *Integrated emission modelling at the regional and urban scales*

We need to have activity-emission factor matrices for the whole EU (not only for the cities) for business as usual (BAU) scenario, for a current year (e.g. 2015) and for 2020 and 2030. We have to take into account also the out-of-city emissions and how they affect city air quality and GHG emissions.

Recent EC DG Env scenario can be used as a starting point. Higher emission factors for NO_x of EURO6 have to be taken into account.

Urban policies needs detailed analysis for all urban agglomerations in Europe. This is a two-step procedure which entails

1. Identification of urban agglomerations (based on CORINE land cover classes and population maps)
2. Top down distributions of proxy estimates

For the participating cities, a pragmatic approach depending on existing information/data will be followed. Importantly, work has to be led by respective city partners or cities.

For life cycle data, results from previous models will be used with respect to various sectors (e.g. energy model runs from the NEEDS and/or REEM project)

Data on emissions of priority pollutants (NO_x, PM_{2.5}, SO₂, PM₁₀, NMVOC species, NH₃, noise) and priority GHGs: CO₂, N₂O, CH₄, BC, NMVOC (ozone), NO_x (ozone) will have to be taken into account. Further pollutants may be taken into account such as: As, PCDD/F, Zn, Cd, Hg, BaP, OC.

A meeting/teleconference has to be organized on how to approach the cities (end of June-first half of July). Information needed:

- Past / policies that have been evaluated
- Planned policies / policies that have been evaluated

- Data on activities, energy balances, gridded emissions, emission scenarios, results of traffic models

Mr. Friedrich will prepare a document to be shared with partners before the teleconference.

It is important to think on how to motivate the city to give us the data, but also to know exactly what type of data we are going to ask.

Presentation by Thomas Maggos (NCSR - Greece)

Leader of Workpackage 3: *Integrated atmospheric modelling for connecting pressures to the environment to concentrations at the regional and urban scales*

Data sources which will be used to derive concentration levels will include both measured and modeled data. The first will include both existing data (from ground based monitoring networks and existing Db such as Airbase) and ad-hoc field campaigns specifically tailored to cover data gaps identified. The second one will make use of models to simulate the dispersion of chemicals into the atmosphere. Models likely to be used will include CAMx and CMAQ to provide hourly concentration of PM_x, NO, O₃ and B[a]P at urban scale; OSPM (Operational Street Pollution Model) to evaluate the transport contribution in traffic corridors. Moreover, MM5 and WRF models will be used to feed the above models with meteorological data. COPERT will be used for emissions estimation.

In addition, we will make use of Earth Observation Data from satellite sensors with different spatial resolution to derive proxy indicators (e.g. AOD) of pollution burden. Furthermore, we plan to use Light Manned Aircraft in 3 cities (Athens, Thessaloniki and Ljubljana) to retrieve AQ data and GHGs at different height profiles and to detect urban gaseous emissions through aerial thermal camera.

Data fusion techniques including ANN and Kalman filter, 3Dvar and OI will be used to merge the different information sources. For each ICARUS city the most appropriate data fusion scheme will be applied based upon the structure and quality of the dataset and the user requirements.

Source apportionment will be applied to further evaluate model results and to also assess the effectiveness of the proposed policies. Various source apportionment methods will be applied including Lenschow approach to distinguish between local traffic, urban and regional sources, mass closure method and receptor models.

One of the key objectives of source apportionment will be to assess the effectiveness of ICARUS abatement measures of AQ and CFP through an approach for estimating changes in concentrations caused by changes in emissions of certain sources. Based on the results obtained, a friendly user guidance tool to authorities may be developed.

Extensive monitoring field campaign will take place in 6 cities (Athens, Thessaloniki, Madrid, Stuttgart, Ljubljana, Brno) at 3 sites (Urban background, Traffic and regional). Strict QA/QC procedure will be followed. Mr. Garcia Saul (ISCI) will be responsible for QA/QC.

It is important that WP3 knows exactly from WP2 the form (format and content) of the emission data produced in WP2.

Every partner should fill a template which will be circulated by NCSR providing info on the lab capabilities.

Indoor air quality modelling will be estimated in WP3 as well.



Mr. Scoccimarro (CMCC) underlined that different climate change scenarios will be considered according to the most recent CMIP5 projections. He also raised some questions about the delivery of climate data:

- Since Regional Climate Model (RCMs) data are available at different horizontal resolutions, from 50 km (many models) to 15 km (few models), do we prefer lower resolution with an ensemble composed by a high number of members or just two RCMs at higher horizontal resolution?
- For the 9 case studies, do we plan to work on the same meteorological parameters/indicators?
- Which meteorological parameters/indicators are needed by modellers?
- Which time resolution do we need? Yearly, monthly or daily?

We need to set up a telco before summer (to better discuss the above points).

Presentation by Clive Sabel (UNIBRIS - UK)

Leader of Workpackage 4: – *Population exposure and health impact assessment*
and Dimitris Chapizanis (AUTH- Greece)

First steps to be followed:

- To select suitable candidate sensor technologies to be used by volunteers
- To develop surveys to be administered to participants
- To develop a data collection tool to store and manage all data coming from different devices

As very first step we soon need soon to make a plan about purchasing sensors.

Mr Sabel underlined that data needed from other ICARUS partners will include census, exposures (e.g. air pollution) and GIS data.

Links with other projects is strongly recommended. They include Urgenche, HEALS, Clair-city (WP on behaviour differences).

Agent Based Modelling allow us to fill the gaps from Task 4.1, exposure profiles can be produced with SES differences from individual to SES groupings of the community. Through this estimating health effects can be produced at the two level. Uncertainty needs to be taken into account in ABM.

Presentation by Angela Gaitani (ADDMA - Greece)

Leader of Workpackage 6: *Developing pathways to green, smart and healthy*
and Rainer Friedrich (USTUTT - Germany)

All partners taking part in task 6.1 (“Developing a vision of smart, green and healthy cities”), will need to arrange a workshop with local stakeholders representatives of e.g. Municipality, Ministry of Environment, City Planners, Architects, Technical Staff, Communication Experts, etc. to:

- Present ICARUS initial results and collect feedback from participants.
- Discuss how smart energy options are affected by socioeconomic scenarios.



- Discuss how digital technologies and green city planning can promote and optimize wellbeing whilst curbing air pollution and mitigating climate change.
- Discuss smart transport solutions.

Outcomes (e.g. visions) will be assessed using the methods of WP5

To develop a transition pathway for each city we need to consider some key aspects such as:

- Research and development - identify key technologies to be developed (e.g. solar panels, alternative modes of heating etc.)
- Continuous renewal - start the renovation of old buildings now in order to achieve a sufficient percentage of building renewal in 50 years' time.
- Revolutionary change – e.g. only electric cars in the city center.
- Behavioral change - citizens are key actors; need to realize through educational campaigns the effects on atmospheric pollution of their everyday habits.
- Energy and resource efficiency – e.g. waste management, alternative transport modes, encouraging car pulling and car sharing

We need to consider Life Cycle in developing visions.

Presentation by Luigi Manzo (EUCENTRE - Italy)

Leader of Workpackage 8: *Dissemination communication and involvement of stakeholders*

WP8 strategy should be built around two core activities:

Inform → dissemination and communication

Engage → exploitation activities

Main target groups are: citizens, policy makers, city partners, scientific community, main polluters and NGOs. We have to map and cluster stakeholders and end users and develop a tailored strategy for each of them.

We need to use a wide range of channels and tools to maximise the impact of the project methods and result (website, blog newsletters, social media, innovation slams etc.).

The capability to engage stakeholders will be an important indicators of ICARUS success. We need to find the ideal way to approach stakeholders and cities. We need to show them how this would be a profitable process for them, that they are members of our team as well.

Through the connections with the cities we will organize students exchange. We can see how different measures between different cities are implemented and start a discussion. Students can bear knowledge into the family and parents. We need to start talking about that sooner than later.

We need to move forward quickly to deliver the first three deliverables:

D8.1 Web-based dissemination portal (AUTH M3)

D8.2 Dissemination strategy report (MESAEP M6)

D8.3 Stakeholder engagement strategy (MESAEP M6)

Presentation by Branko Kontic (JSI - Slovenia)

Leader of Workpackage 5: *Integrated assessment for short to medium term policies and measures*

Data collection about measures. Two possible approaches:

- First, a "problem driven approach" (response to city problems and their possible mitigation);
- Second, needs of modelling and impact assessment as planned in WPs 2, 3, and 4 (in principle this is also a "problem driven" approach, however, it may be specifically tailored to the modelling purposes).

WP5 is in some way the core of ICARUS project and as such it is linked to almost all the WPs. All need to provide their thoughts and ideas regarding any of this strategic (common) topics of ICARUS, i.e., WP5 preferably by the end of July (M3) to JSI (Branko.Kontic@ijs.si; Davor.Kontic@ijs.si and David.Kocman@ijs.si)

JSI will contact WP5 Task leaders, as well as leaders of other WPs, to further clarify links and activities. JSI will provide suggestions for the near future communication in the WP5.

It might be useful to create a matrix to observe and understand interconnections such as a flowchart between deliverables.

ARTEMIS expressed its interest to be involved in Task 5.2

Presentation by Filitsa Chasapi (UPCOM - Greece) and Emmanouel Tsiros (KartECO - Greece)

On behalf of Workpackage 7 leader: *Motivating citizens towards the vision*

WP7 serves as the innovation and development phase related to the methodologies and models that previous WPs have achieved.

Delphi methodology will be used to identify user requirements and functional specifications of ICARUS DSS. We plan to use Open source WebGIS Infrastructure (e.g. PostgreSQL, postGIS).

We need to clearly identify which models and data are available within ICARUS consortium and to know what they are which data they use in input and produce as output. To this aim we need to have a sort of inventory of data and model available. UPCOM and kartECO should stay in constant touch with the modellers/researchers.

We will need to have a telco with members from WP7 in order to start with the Delphi. Also a telco with WP leaders to get feedback on what could be used in the DSS.

One key final objective is the creation of academic spin-off. To this aim we need to carry out a thorough market analysis: we need to identify a) user needs, b) key players, c) willingness to pay for ICARUS solutions. We already have an initial business model which will be updated and finalised by M20 +SWOT analysis +financial viability check

For the DSS we will need to have close consultation with end-users to get feedback and opinions.

ARTEMIS expressed its interest to be involved in Task 7.2

Presentation by Alberto Gotti (AUTH - Greece)

Workpackage 9: *Management and administration issues*

Scientific frame:



ANNEX 1: part A and part B (Description of Work)

Executive frame:

Grant Agreement (GA), Annex 1: part A and part B
Consortium Agreement (CA)

Intellectual property rights frame

Consortium Agreement (CA), Grant Agreement (GA)

Three reporting periods (M12, M30 and M48). Periodic technical and financial reports must be submitted by the coordinator within 60 days after the end of each reporting period.

Final technical and financial reports must be submitted by coordinator within 60 days after end of project.

Payment:

- One pre-financing (upon entry into force) for the whole duration (ca. 43% of the EU contribution).
- 5% of the EU contribution is retained by the Agency from the pre-financing payment and transferred into the 'Guarantee Fund'.
- Interim payments based on financial statements (within 90 days from receiving the periodic report, subject to its approval).
- Total amount of pre-financing and interim payments: shall not exceed 90% of max. EC-contribution: Retention (10%).
- Final payment (within 90 days from receiving the final report, subject to its approval)

We are going to create mailing lists for individual WPs beside one for the whole consortium.

We will upload all the presentations of this Kick-Off meeting on the ICARUS web site. Everybody will be informed when it will be ready.

End of the meeting.

