forecAsting System for urban heaT Island effect

"Implementation of a forecAsting System for urban heaT Island effect for the development of urban adaptation strategies" (LIFE ASTI)

Deliverable E2. Proceeding and training material of the local seminars in Rome and Thessaloniki

The project Implementation of a forecAsting System for urban heat Island effect for the development of urban adaptation strategies - LIFE ASTI has received funding from the LIFE Programme of the European Union".

www.lifeasti.eu

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Document Information

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LOCAL SEMINAR SUMMARY

Local seminar in Rome

As foreseen in Action E.2 of the LIFE ASTI project local seminars with local stakeholders and decision makers was organized in 2021 in Rome by DEASL and in Thessaloniki by MoT.

In Rome the event was held at DEASL premises (see program below) on the 19th November 2021 as well as online for people who could not attend or travel given the COVID -19 restrictions in place in Italy. A total of 22 people attended comprising both LIFE ASTI partners and invited stakeholders. The first part of the meeting was focused on showcasing results and tools developed within the project and increasing knowledge of the potential use of LIFE ASTI tools. The meeting started with a brief overview of the LIFEASTI project, presented by ISAC-CNR , followed by a presentation on the UHI monitoring campaign set up in Rome by ISAC-CNR and the potential use of data provided monitors were illustrated and results of the UHI intensity measured throughout the project. This was followed by two presentations on the forecasting model for Rome and the HHWW system put in place in LIFE ASTI presented respectively by ISAC-CNR and DEASL. Focusing on the added value of these tools namely high resolution data within the city which is readily available on the web platform and the HHWWS which is based on the current operational one in place and provides again high resolution forecasts for all the districts in Rome. This is of importance for planning of response measures and emergency health service activity. A coffee break was held in order to allow participants to get to know each other and promote networking and collaborations at the local level.

The second session was a series of invited presentations from local stakeholders invited as part of the local working table, specifically:

- the *Lazio Region Health Department* who presented the Lazio regional heat plan carried out by GPs and health services and how they can use can use LIFE ASTI results to show health practitioners which areas within Rome are most at risk,
- DEASL presented a nation project funded by the *Ministry of Health CLIMACTIONS* – which focuses on adaptation and mitigation of UHI health effects in Italian cities and how work carried out in the project is linked to LIFE ASTI and how findings and mutually support policy climate change and environmental policy.

- *ARPA LAZIO* the environmental protection agency presented its monitoring campaign for UHi in Rome carried out with DEASL for estimating health effects and the discussion was on future collaborations and combining the data sources to potentiate the UHI monitoring network to support environmental research and local policies,
- *Risorse per Roma S.p.A* from the Municipality of Rome who has been involved in resilience projects for the Municipality both with local and international projects presented the new Piano d'Azione per l'Energia Sostenibile e il Clima di Roma (PAESC) which foresees a series of adaptation and mitigation actions to contrast climate change in Rome.
- *ISPRA* the national environment protection agency presented city level resilience plans and how findings and data from LIFE ASTI can be used in this context to support policy and improve data sharing.
- CNR-IIA Institute of air pollution for the national research council presented the importance of air quality monitoring for sustainable development in the context of urban areas, other relevant factor related to urban environmental and climatic stressors affected by climate.
- The Physics department of *Università la Sapienza* presented research on urban scale modelling of temperatures as alternative and complementary models to LIFE ASTI and potential synergies and future research collaborations.
- The *SME Meteo Trackers* presented low cost mobile thermal monitors to estimate and monitor urban climatic conditions and research collaborations to expand the UHI monitoring network with these mobile monitors was discussed.
- SERCO Italia presented the Baquinin monitoring site , its functionalities, research developments and data for research and policy making relevant for the context of LIFE ASTI.

The final part of the meeting was centred around a general discussion of the working table and other members of the LIFE ASTI team and local working group of stakeholders from health and environmental services as well as research in ROME.

All training material of the Rome event was uploaded on the internal member platform area and LIFE ASTI sharefile https://drive.google.com/drive/folders/1HAotTITLH6IcNpqy8UIS0gINaq36qZcG . For local stakeholders presentations were shared via email. The event was promoted on DEPLAZIO social media and LIFE ASTI platform

Program of Local seminar event in Rome

Implementation of a forecAsting System for urban heaT Island effect for the development of urban adaptation strategies (LIFE ASTI)

Local working group

19 ottobre, 2021

Time	Topic	Speaker
10:00	Introduzione ai lavori	Francesca de'Donato DEPLAZIO
10:00 – 10:15	Overview del progetto LIFE ASTI	Stefania Argentini ISAC CNR
10:15 – 10:30	Monitoraggio dell' Isola Calore urbano a Roma nell'ambito di LIFE ASTI.	Andrea Cecilia ISAC CNR
10:30-10:45	Il modello previsionale LIFE ASTI	Giampietro Casasanta ISAC CNR
10:45 – 11:00	La piattaforma web e APP LIFEASTI ed il sistema di allerta HHWW	Francesca de'Donato DEPLAZIO
Coffee break		
11:15 – 13:00	Sessione II.	
Il piano di prevenzione alle ondate di calore della Regione Lazio		Antonio Mastromattei – REGIONE LAZIO
Clima e salute misure di adattamento e mitigazione in ambito urbano. Il progetto CLIMACTIONS – CCM Ministero della Salute		Paola Michelozzi – DEPLAZIO
Resilienza ai cambiamenti climatici: una panoramica delle città		Francesca De Maio – ISPRA
Il Piano d'Azione per l'Energia Sostenibile e il Clima di Roma (PAESC): generalità e azioni di adattamento ai rischi maggiori per la città		Pierluigi Potenza – Risorse per Roma S.p.A.
Isola di calore urbana, l'esperienza di ARPA Lazio		Silvia Barberini - ARPA LAZIO
Istituto sull'Inquinamento Atmosferico. Qualità dell'aria per uno sviluppo sostenibile		Cristiana Bassani - CNR-IIA
Un modello alla microscala per la simulazione della temperatura in ambiente urbano		Paolo Monti - Università La Sapienza Roma-DICEA
Misure meteo in mobilità, una metodologia-chiave per lo studio microclimatico territoriale		Juri Iuarato - MeteoTrackers
Baqunin supersite		Anna Maria Iannarelli – Serco Italia S.p.A
Discussione aperta del tavolo tecnico		

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Local seminar event in Thessaloniki (MOT)

On March 16, 2021, a series of educational/informative events were organized by the Municipality of Thessaloniki, in collaboration with the Contractor (Lever SA) of the LIFE ASTI project, in the multi-purpose hall "Manolis Anagnostakis".

These events were held hybridly, that is, participation could be done either in person or electronically. The Contractor was also responsible for creating the electronic invitation. So, through the Webex platform he created the event, the link of which was included in the Program of the event, so that interested parties can access it.

Informative material, snacks and a light lunch were distributed to the (in person) participants.

A total, 63 people attended the events (either live or online), as shown in the Table below and in the deliverable annexes online.

The series of events started at 09:15 with registration. Then, greetings began. Specifically, the Deputy Mayor of Finance and Head of Urban Resilience of the Municipality of Thessaloniki, Mr. Koupkas Michael. Mr. Koupkas emphasized the great value of the project, both for the Municipality of Thessaloniki and the neighboring municipalities, as a very important tool has been created - a platform and applications for smart phones, which helps to inform the citizens and visitors of the Municipality, and to prevent unpleasant consequences that high temperatures can have on human health, providing high-quality information regarding extreme climate phenomena, such as heat waves and the urban heat island effect. Also, Mr. Koupkas emphasized that the utilization of European funds with such efforts is a strategic goal of the Municipality of Thessaloniki, putting it at the forefront of important issues, such as the protection of the Environment, the climate crisis and resilience. Afterwards, the Deputy Mayor for Environment & Volunteering of the Municipality of Pavlos Melas, Mr. Sakis Lazaridis, took the floor. Mr. Lazaridis expressed his great joy that the Municipality is a partner in this effort. Mr. Lazaridis emphasized that we all know the place we live in and its problems, with air pollution and the lack of citizens' information and awareness. Thus, this project is a structured effort in this direction. Finally, the Dean of the School of Science, of the Aristotle University of Thessaloniki, Prof. Hara-Myrto-Agapi Charalambous, addressed a greeting. Ms. Charalambous stated that the Foundation's mission is to connect the University and the Scientific Community with society, utilizing the various infrastructures for the benefit of society. In addition, she emphasized that in recent decades living conditions have deteriorated rapidly, due to the harmful synergy of extreme temperatures, widespread air pollution and urbanization. Finally, she underlined that the LIFE ASTI project is a representative example of how knowledge can be turned into action for the common good, through protective measures taken by the relevant bodies.

The local Training session of the project started at 10:15 and its coordinator was Dr. Georgios Papastergios from the Municipality of Thessaloniki.

Firstly, Professor Dimitris Melas of the Atmospheric Physics Laboratory of the Aristotle University of Thessaloniki took the floor for a brief presentation of the LIFE ASTI project. Prof. Melas started his presentation by giving information about what the Urban Heat Island is, where it is caused and when it is observed. Afterwards, he presented its effects on both health and energy, as well as the results of the project concerning Thessaloniki. He also said that a High Temperature Health Alert System has been created where citizens can log in to get the relevant information. In addition, he stated that based on the results of the project so far, the average temperature is expected to increase by 1.5 - 4.5oC in summer and 0.8 - 2.6oC in winter. Even based on the future projection of the Urban Heat Island, its biggest changes are expected in coastal areas, as follows: +0.2°C in the afternoon and -0.2°C in the morning. Finally, he emphasized that societies must be prepared to respond more efficiently to extreme temperatures and in this context the LIFE ASTI project has a plan to disseminate and transfer know-how to other regions of the interior and abroad except Thessaloniki, Rome, Heraklion and of the Municipality of Pavlos Melas where, as part of the project, high-resolution 4-day forecast systems of ATHN are implemented, in order to achieve the best possible results.

The next speaker was Mr. Symeon Taskaris from the company Geospatial Enabling Technologies, who presented the platform developed in the LIFE ASTI project. The vertical implementation of an Operational Forecasting System for the Monitoring of the Urban Heat Island Effect constitutes a valid and timely Monitoring System of the UHI Effect.

The proposed solution consists of an online application platform that disseminates information to the authorities and the public. The platform is based on Open Source Software and manages information derived from predictive meteorological models, meteorological stations, and satellite data. The information is disseminated through a web application, but also through a mobile application. The goal of the solution is to inform the authorities and citizens about Extreme Heat Phenomena as well as the effects of the UHI Effect, providing direct and easy access to the data in the form of interactive maps and graphs. The platform consists of a Central Database, where all data is stored.

The UHI forecasting System is implemented in three cities. Two in Greece, Thessaloniki and Heraklion. And one in Italy, in Civitavecchia near Rome. The Municipality of Pavlos Melas was recently added.

Mr. Taskaris stated that all generated data is accessible through network services and can be exploited by third-party applications. The application offers an online form to search for metadata of services and how to access them. Correspondingly with the online application, the mobile application has also been developed. The application is available for free to everyone and is available for devices with Android and IOS operating systems, where anyone interested can make the same searches as the online version of the platform.

Then, the floor was taken by Dr. Stavros Keppas, Researcher at the Atmospheric Physics Laboratory of the Aristotle University of Thessaloniki, who presented the UHI Future Climate Assessment Report. Dr. Keppas presented action C4 of the LIFE ASTI project which concerns the study of the

present and future climate of Thessaloniki and Rome, as well as the Urban Heat Island study of the cities.

Then followed the "Discussion - Questions - Conclusions" section. The floor was taken by the Deputy Mayor Pavlou Mela, Mr. Lazaridis, who emphasized how useful the presentations were. Next, he said that knowing the city we live in, where it has the lowest percentage of green space per inhabitant, only 2.4 sq.m, when the minimum is 10 sq.m, the situation is burdened more. In the Municipality of Pavlos Melas, an important project of the Metropolitan Park has begun, where 7,500 new trees will be planted. In addition, he emphasized how important it is to do a health impact study in collaboration with the Medical Association, in order to be a more important form of pressure on all relevant bodies to enrich the cities with green spots.

Afterwards, Prof. Melas added that in general environmental problems should not be considered individually, but the synergy between them and the result should be considered. Unfortunately, cities face several problems that need to be addressed.

In addition, an intervention was made by Mr. Chatzinakos Periklis, Director of the environmental organization MAMAGEA, who stated that it is necessary to disseminate all the results to the wider public, so that they can be educated and gain access to all the data. He also emphasized that the specific environmental organization can contribute to this. He also mentioned the preparation of a study on the specific topic and specifically on the conversion of an existing apartment building into a model green building with the active participation of the community of its residents.

Finally, the floor was taken by Ms. Ioanna-Vasiliki Pothitaki from the LEVER company, who pointed out that there is a need for cooperative treatment of both the phenomenon and its consideration. Thus, such projects form the basis for a more correct approach to the problems on a holistic basis.

The local seminar started with training on the platform (LIFE ASTI System Platform) and smart mobile application. Mr. Taskaris from the GET company gave a step-by-step presentation of the platform and the mobile version regarding the various applications and information they offer.

Then, the floor was taken by Mr. Alexandros Deligiannis from the Sympraxis Team, who presented the international good practices that have been recorded for the control of the Urban Heat Island. Essentially, it referred to proposals, measures, actions, interventions that are part of avoiding or adapting to climate change.

The last event of the day had to do with the organization of the 2nd Round Table of the project, where Ioanna-Vasiliki Pothitaki from the company LEVER SA (Contractor of the Municipality of Thessaloniki) presented the Action Plan of the project to deal with the phenomenon of ATHN for the Municipality of Thessaloniki.

The presentation started with the presentation of some introductory information about UHI. Subsequently, a brief presentation of the benefits of treating UHI was made. In addition, there was a presentation of policy and strategy axes.

The main part of the presentation concerned the presentation of the adaptation measures and the measures to deal with the ANTH that are proposed to be implemented in the Municipality of Thessaloniki.

All training material of the events was uploaded on the internal member platform area and LIFE ASTI sharefile https://drive.google.com/drive/folders/1HAotTITLH6IcNpqy8UIS0gINaq36qZcG

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Program of Local seminar event in Thessaloniki

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March 17, 2022

Municipality of Thessaloniki – V. Georgiou A΄ 1

(CTRL)

Time	Issue	
09:15 – 09:45	**Registrations** ** Registrations can also be made electronically, before the date of the events, at the following link: registration form.*	
09:45 – 10:15	**Welcome addresses:** - Mr. Michael Koupkas, Deputy Mayor in Finance, Chief Resilience Officer of the Municipality of Thessaloniki - Mr. Sakis Lazaridis, Deputy Mayor in environmental issues, Municipality of Pavlos Melas - Prof. Demetrios Melas, Aristotle University of Thessaloniki	
10:15 – 11:30	**Local Training Session** - 10:15 – 10:30: Brief presentation of the LIFE ASTI project - 10:30 – 10:50: Presentation of the LIFE ASTI System Platform - 10:50 – 11:10: Presentation of the UHI Future Climate Assessment Report - 11:10 – 11:30: Discussion	- Prof. D. Melas (AUTh) - Mr. G. Mavrellis, Mr. S. Taskaris (GET) - Dr. S. Keppas (AUTh)
11:30 – 12:00	Break - Coffee	
12.00 – 13.00	**LIFE ASTI – Local Seminar** - 12:00 – 12:30: Training on the LIFE ASTI System Platform and the mobile applications for smartphones (android, iOS) - 12:30 – 12:50: Presentation of international good practices - 12:50 – 13:00: Discussion	- Mr. S. Taskaris (GET) - Mr. A. Deligiannis, (SYMPRAXIS)
13:00 – 13:30	Break - Coffee	
13:30 – 14:30	**2nd Local Working Table** - 13:30 – 14:15: Presentation of the LIFE ASTI Action Plan, for combating the UHI, for the Municipality of Thessaloniki - 14:15 – 14:30: Discussion	- Mrs I.B. Pothitaki (LEVER A.E.)
14:30 – 15:00	Break - Light Lunch	

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