

**REMEDI - REgenerating mixed-use MED urban communities
congested by traffic through Innovative low carbon mobility
sOolutions**

Minutes (Action 4.3)

**European Thematic Seminar entitled:
“SUSTAINABLE URBAN MOBILITY: CONFRONTING AIR POLLUTION
AND CLIMATE CHANGE”**

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1 Thematic Seminar Minutes

The 3rd REMEDIO Thematic Seminar was held on the 22nd of May 2018 at the premises of the City Hall, in Thessaloniki.

The topic of the 3rd Thematic Seminar was: “Sustainable Urban Mobility: Confronting Air Pollution and Climate Change”.

75 participants followed the Thematic Seminar that was chaired by **Dimitrios Melas**, **Charikleia Meleti** and **Anastasia Poupkou (Aristotle University of Thessaloniki (AUTH))**.

Following the presentation of the Thematic Seminar Agenda (Annex 1), **George Voyatzis (AUTH)** and **George Dimarelos (City of Thessaloniki)** welcomed the participants and opened the Thematic Seminar session.

After the short welcome speeches, **Chrysostomos Kalogirou (Metropolitan Development Agency of Thessaloniki SA (MDAT))**, **Katerina Chrisostomou (Centre for Research and Technology Hellas (CERTH))** and **Paraskevi Tarani (Creativity Platform)** made an overview of a Model and Methodological Guide for transferring the REMEDIO know-how to the urban axes of Thessaloniki. The development of a modulo proposal for the upgrade of the ‘Eastern Horizontal’ Axis of Thessaloniki, representing the pilot axis for Thessaloniki within REMEDIO, was explained by **Katerina Chrisostomou**. **Paraskevi Tarani** presented **ReMod: a Redesign Model for accelerating integrated urban solutions**. (Annex 2)

In continuation, **Alexia Spyridonidou and Kosmas Anagnostopoulos (CIVINET CY-EL)** presented the CIVITAS Network, as well as the CIVINET CY-EL Network as the **largest alliance for Sustainable Mobility** to have ever existed in Greece and Cyprus. 120 Municipalities are registered in the CIVINET CY-EL, out of which 80 will receive support to develop SUMP. Apart from the Municipalities, 3 Ministries and 5 Regions also participate in the CIVINET CY-EL. **Institutional engagement, fund raising and adaptation to the legal framework** are the most significant supporting activities provided to the members of the CIVINET CY-EL. Funded activities were shown and additional activities in need to receive funding were also presented. A more dedicated meeting with the goal to raise synergies with local Authorities was held on the 23rd of May 2018 in the City Hall of Thessaloniki. (Annex 3)

The next presentation, given by **Aristotelis Naniopoulos (AUTH)**, was dedicated to the promotion of sustainable mobility by enhancing public transport and the presentation of a relevant **HORIZON2020 project** with the acronym **CIPTec** (May 2015 - April 2018): “Collective Innovation for Public Transport in European cities” (www.ciptec.eu). The project aims at making public transportation more attractive for reducing congestion and relevant impacts. **Aristotelis Naniopoulos** presented the consortium and the activities of the project. The methodological approach that was used led to the identification of almost 200 innovations, out of which 31 have been worked out in detail in the frame of the project and fed the project Toolbox. Specific activities, like **crowdsourcing**, **collective intelligence workshops**, **co-creation methods**, were discussed to raise awareness and raise participation. Conjoint Analysis was used to analyse preferences concerning 11 selected existing innovative concepts. 7 distinct groups/segments that demonstrate similar preferences with respect to their preferences in Public Transport innovations were identified. The **CIPTec Toolbox** was presented, aiming in capturing the generated **knowledge** and providing **advice on innovation introduction to public transport stakeholders**. Selected policy suggestions and major impacts, among which the overall expected one is to make public transport more attractive to users and reduce the negative effects of private car use, were finally depicted. (Annex 4)

The following presentation, given by **Zissis Samaras (AUTH)**, was entitled: “Automotive Emissions Control: Challenges from real world performance requirements. The future of automotive technology beyond ‘Dieselgate’ ”. The first part of the presentation was dedicated to depict that the **road transport emissions** continue to be **important**. The air quality in EU countries was presented, impacts on population health were discussed and flowcharts depicting the emission levels of Heavy and by Light Duty Vehicles were shown. **Projections** regarding **NOx and PM2.5 emissions** were also presented. The second part of the presentation deepened on the **air pollutants regulations**: CO₂ regulations: (New CO₂ emissions targets for PCs and Vans, CO₂ labeling for HDVs), Regulated air pollutants: (Euro 6 and VI OBD (incl. PM/PN monitoring), GDI PN PMP, 4th RDE Package, L-category vehicles (scooters, motorcycles, ...)), Other issues: (durability, NO₂, NH₃, tyre and brake wear etc). The **Portable Emission Measurement System (PEMS)** for cars was presented. The third and fourth part of the presentation was dedicated to CO₂ emissions and **diesel emission control technologies**. Discussion on the extent to which diesel can be considered “fundamentally dirty” was raised. The fifth part of the presentation was dedicated to respond to the question “Will the Combustion Engine drive the Low Carbon Vehicle?”. **Technologies, alternative fuels and electric vehicles** were discussed. In the sixth part of the presentation, the **On-Board Diagnosis system** (system for emission control, which has the capability of identifying the likely area of malfunction by means of fault codes stored in a computer memory) was presented. Its concept, definition of threshold limits, sensors and other supportive technologies were presented. In the seventh part of the presentation, the importance of **modeling** was presented. Finally, it was summarized that GHG control systems will continue to be in the forefront of EU policy and related technological advances and the Internal Combustion Engines will continue to be the powertrains of option for the foreseeable future. (Annex 5)

After, a short coffee break took place as planned according to the Agenda.

Following the coffee break, **Konstantia Nikolopoulou (MedCities)** presented the MedCities Network, the situation of mobility in Mediterranean cities, challenges and opportunities, the INTERREG MED **Urban Transport Horizontal project GO-SUMP** and other relevant initiatives. As far as the Network is concerned, 50 cities participate in Mediterranean level. The role, focus and activities of the Network were presented. Regarding the challenges faced by the Mediterranean cities, these are summarised under: **Globalisation**, **Demographic Evolution** and **Urbanisation – Metropolitisation**. The special characteristics of Mediterranean cities that affect mobility were presented and challenges and opportunities were discussed. Several projects and EU initiatives that reinforce the introduction of SUMPs, but more importantly, the building of a **Mediterranean Urban Transport Community** were presented. Finally, Urban Transport Community events, needs, assets, results, but also thematic groups and workshops/webinars dates were depicted. Next capitalization and transferring activities as well as events and webinars were highlighted for people interested to the MedCities urban transport activities to enhancing possible future synergies. (Annex 6)

The final presentation of the 3rd Thematic Seminar was held by **Konstantina Karydi (100 Resilient Cities (100RC))** entitled: “Urban mobility and environmental sustainability: Learnings from the resilience building agenda”. The introductory part of the presentation was dedicated to explain the **notion and process of building urban resilience**: Building resilience is about recognizing that **shocks and stresses are interconnected, and solutions should be as well**. What resilience aims to do is to focus on developing responses that have multiple benefits. It also requires comprehensive input from people outside of government – everything from **technical experts** to **community leaders** to the **business community**. To this extend, the 100RC Network was presented, built to help to **transform cities** and **confront major challenges and common needs**. One very important aspect for transformation at urban level is **mobility**

and transportation. A paradigm from Santiago de Chile was presented. The strategy for the urban resilience plan of Thessaloniki was briefly presented. (Annex 7)

Following the presentations, there was an open discussion among the participants of the seminar. The main points arisen and remarks made during this last session are the following:

1. Internal Combustion Engines (ICEs):

Zissis Samaras answered a technical question raised by the audience related to ICEs. He underlined that ICEs will continue to exist because they are applications in which they cannot be replaced. For example, it is difficult to imagine such a replacement for trucks. The electric model does exist, but there is a problem with the autonomy. Also in marine transportations, there is no way that the electric model can replace diesel. So in some cases replacement is realistic, but in other cases it is not.

2. Technology of batteries:

Zissis Samaras answered a technical question raised by **Fransesca Liguori (Regional Agency for Environment Protection in Veneto Region (ARPAV))** regarding the use of batteries. He underlined that technology in batteries will improve in the upcoming years. Manufacturers will produce not only hybrid, but also electric models. Electro-mobility seems to be a solution against pollution. Among the electric car and the Internal Combustion technology, the first one seems to be more efficient. However, if we consider a Life Cycle Assessment, taking into account the production of the battery for the electric car, then the overall efficiency of the electric car would balance with the Internal Combustion technology. In case we use renewable energy instead for an electric battery, then the overall efficiency turns higher, but if the sun is used as a source, we have to take into consideration that the energy conversion is low. Several challenging questions emerge, such as, how to effectively calculate efficiency and CO₂ emissions, how big the battery should be for the vehicle to be operable for a set number of hours. A special mention to Tesla was made, which of course is very expensive, and still there is a lot of conversation about the possibility of another manufacturer company (eg Fiat) to produce similar technology in a more competitive cost.

3. Weight and life time of batteries:

A third question was raised by the audience to **Zissis Samaras**, regarding the weight and the lifetime of the battery. Zissis Samaras started his position with a remark, regarding the weight of cars. He mentioned that Tesla cars weight more than other Internal Combustion vehicles, due to the battery. He continued that there are opportunities for electric cars, as their batteries can be put at their bottom. There are challenges ahead, to produce lighter and smaller cars, with the same volume inside. There is not one easy answer on how to effectively achieve that, optimization is needed. One idea would be to use lighter materials, which would in parallel accelerate other businesses. As for the lifetime of the battery, Zissis Samaras underpinned that we need a battery to last according to our needs. He mentioned two ways of charging. He also mentioned the fact that during charging, people are exposed to the electromagnetic field. Finally, discussion was made about national strategies on the issue. For example, China has gone electric faster than EU countries and this was a decision taken at strategic level. A reason for that was that in China they cannot make Internal Combustion Engines, while in the EU the situation is the opposite. A last remark was made for international competition and the fact raised was that the automotive sector covers 10% of the employability in EU and a large percentage is reflected also in GDP per capita.

4. 100RC:

Margarita Aggelidou (QPlan) remarked that 100RC provide strategic level / programmatic advice to cities. It is well structured and the advice is good but the question is about the provision of specific guidelines and practical hands-on tools useful for cities in the time of crises and loss of resilience. **Konstantina Karydi** responded that strategizing is not separate from implementing. The strategies that are drafted for the cities are supported by long term programmes, networking and best practices exchange.

5. MedCities:

Margarita Aggelidou noted that the MedCities Network targets Mediterranean cities and welcomes INTERREG Programme. She asked whether MedCities also head for HORIZON2020 Programme. The answer by **Konstantia Nikolopoulou** was positive.

The Thematic Seminar ended at 13.00 pm.

Annex:

1. Thematic Seminar Agenda (REMEDI0_3nd_Seminar_Agenda.pdf)
2. Chrysostomos Kalogirou, Katerina Chrysostomou and Paraskevi Tarani Presentations (REMEDI0_3nd_Seminar_Kalogirou.pdf; REMEDI0_3nd_Seminar_Chrysostomou.pdf (and mp4); REMEDI0_3nd_Seminar_Tarani. pdf)
3. Alexia Spyridonidou and Kosmas Anagnostopoulos Presentation (REMEDI0_3nd_Seminar_Spyridonidou_Anagnostopoulos.pdf)
4. Aristotelis Naniopoulos Presentation (REMEDI0_3nd_Seminar_Naniopoulos.pdf (and mp4))
5. Zissis Samaras Presentation (REMEDI0_3nd_Seminar_Samaras. pdf)
6. Konstantia Nikolopoulou Presentation (REMEDI0_3nd_Seminar_Nikolopoulou. pdf)
7. Konstantina Karydi Presentation (REMEDI0_3nd_Seminar_Karydi. pdf)
8. Seminar Attendance List (REMEDI0_3nd_Seminar_Signature_Sheet.pdf)
9. Seminar Photos (REMEDI0_3nd_Seminar_Photos.pdf)