



Milestone M43 (M7.8)

Project mid-term meeting



RI-URBANS

**Research Infrastructures Services Reinforcing Air
Quality Monitoring Capacities in European Urban &
Industrial Areas (GA n. 101036245)**

**By
CSIC**



21st November 2023

Milestone M43 (M7.8): Project mid-term meeting

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1. About this document

This document provides a short description of the scope, venue, agenda, contents, participants and main outputs of the RI-URBANS project mid-term meeting (i.e., 2nd Science Meeting) held, in a hybrid format, in Delft, The Netherlands on 18-19 October 2023. It is one of the milestones of WP7 (Communication, dissemination and exploitation). Thus, this milestone M43 (M7.8) addresses task T7.2 on targeted tools for dissemination, communication and exploitation actions. Specifically, its goal (iii) organization of science meetings, project meetings, the stakeholders workshop devised in WP6, and support in the dissemination of training sessions to foster the uptake of RI-URBANS outputs (see milestones), including possible joint events with the [PAUL project](#) (renamed ICOS Cities). Although the mid-term meeting was originally planned for month 23, it was requested and accepted to be moved to month 26.

This is a public document, available in the RI-URBANS website (<https://riurbans.eu/work-package-7/#milestones-wp7>). The document will be distributed to all RI-URBANS Partners for their use and submitted also to European Commission as the RI-URBANS milestone M43 (M7.8).

2. Scope

The scope of the RI-URBANS 2nd Science Meeting (i.e., MID-TERM PROJECT MEETING) is in the following major topics of the project:

- Outputs of the 1st reporting period (M01-M18, October 2021 – March 2023) evaluation of RI-URBANS.
- Actions implemented to reply on the referees' requests mentioned in the evaluation report.
- Consortium General Assembly meeting including all beneficiaries and work package leaders.
- Pan-European reports on advanced air quality (AQ) parameters. Most data compilation of the advanced AQ parameters has been finished, but updating will take place.
- Open access of compiled data as datasets and data flow towards ACTRIS (*Aerosol, Clouds and Trace Gases Research Infrastructure*) of further measurements.
- Service tools (STs) on 3D measurements.
- Analysis of health outcomes, city mapping, citizen involvement, pollution, hotspots.
- First results on emission inventories and modelling.
- Progress of the five RI-URBANS pilots.
- How ACTRIS and RI-URBANS might support implementation of Articles 7 and 10 of the new AQ Directive on ultrafine particles (UFP) in hotspots and advanced AQ parameters in supersites.
- Progress of upscaling actions.
- The case study of upscaling for Warsaw, Poland.

At the same time, a major goal of the 2nd Science Meeting was to involve AQ policy stakeholders in the interpretations and discussions of the project results, as well as pilots and applications of STs.

The five RI-URBANS pilots focus on the demonstration of the following STs:

- P1: Near-real-time (NRT) particular matter (PM) source apportionment.
- P2: NRT UFP - Particle Size Distribution (PSD).
- P3: Mapping, 3D, mobile measurements and citizen science.
- P4: Health effects of advanced AQ parameters and source contributions.

- P5: AQ in and from urban hotspots (traffic, airports, industry, harbours).

Concerning AQ policy stakeholders, RI-URBANS invited experts from EMEP (European Monitoring and Evaluation Programme), WMO (World Meteorological Organization) and WHO (World Health Organization) as well as representatives of the cities, regions and countries involved in the pilot studies and others with potential interest in the STs.

In this meeting we also included one of the two annual Steering Committee meetings and the General Assembly.

3. Dates, venue of the meeting and format

The RI-URBANS 2nd Science Meeting took place on 18-19 October 2023 in a hybrid mode (both face-to-face and online) in Delft, The Netherlands.

The venue was the [Green Village Delft](#) (see Figure 1; The Green Village, Building: Co-Creation Centre, Van den Broekweg 4 2628 CR Delft).



Figure 1. Venue of the 2nd RI-URBANS's Science Meeting.

4. Agenda

The detailed agenda of the 2nd Science Meeting with an indication of the online presentations and onsite presentations (when no indication is given) is shown below.

09:00-09:30 Registration of delegates (for on-site participants), welcome and technical information, Caroline Kohlmann (TU-Delft), Alicia Arroyo and Marta Monge (CSIC)

INTRODUCTORY SESSION

09:30-09:45 Welcome, logistics and safety issues
TU-Delft and KNMI

- 09:45-10:00** Comments on RI-URBANS from the Project Officer
Gustavo Naumann (H2020, EC) (Online)
- 10:00-10:15** RI-URBANS progress report and outputs of the RP1 evaluation
Tuukka Petäjä (UHEL) / Xavier Querol (CSIC)
- 10:15-10:30** Progress of WHO on Air Quality & Health and on new air quality parameters
Roman Perez Velasco (WHO) (Online)
- 10:30-10:45** EU Project: STARGATE: Ultrafine particles in airports
Jan Peters & Martine Van Poppel (VITO)
- 10:45-11:00** Oxidative potential of PM and components: Where we are to reach harmonisation?
Gaëlle Uzu (University Grenoble, CNRS)
- 11:00-11:30** Invited talk: Lessons learnt from 10 years boundary-layer research in the Amsterdam Atmospheric Monitoring Supersite
Gert-Jan Steeneveld (Wageningen University, Meteorology & Air Quality Section)

11:30-12:00 Coffee break + Poster session

PROGRESS OF WP1

- 12:00-12:20** What should we know about UFP and PNSD in terms of urban AQ
Roy M. Harrison (University of Birmingham)
- 12:20-13:00** Progress
- 12.20 – 12.25 **Welcome** (*Andre Prevot / Andrés Alastuey*)
 - 12.25 – 12.40 **T1.1: PNSD/PNC** (*Merixell García (Online) / Xavier Querol*)
 - 12.40 – 12.55 **T1.1: eBC / Absorption** (*Marjan Savadkoobi (Online) / Marco Pandolfi (Online) / Andrés Alastuey*)

12:55-13:45 Lunch

13:45-15:45 WP1 (continuation)

- 13.45 – 13.55 **T1.1: Chemistry offline** (*Andrés Alastuey*)
- 13.55 – 14.05 **T1.1: Chemistry online** (*Benjamin Chazeau*)
- 14.05 – 14.15 **T1.1: VOCs/NH₃** (*Thérèse Salameh*)
- 14.15 – 14.30 **T1.2: Recommendations for source apportionment techniques for PM and emerging pollutants** (*Fulvio Amato (Online)*)
- 14.30 – 14.45 **T1.2: Service tool for NRT source apportionment** (*Olivier Favez (Online) / J. Eudes Petit*)
- 14.45 – 15.15 **T1.3: Developing products and methods for AQ from profiling observations** (*Lucia Mona / Francesca Barnaba (Online) / Christoph Mahnke*)
- 15.15 – 15.45 **Discussion and next steps** (*Andre Prevot / Andrés Alastuey*)

PROGRESS OF WP2

- 15:45-16:05** Health effects of air pollutants, conventional versus advanced AQ parameters
Gerard Hoek (Utrecht University) (Online)
- 16:05-16:45** Progress
- 16.05 – 16.25 **T2.1: Health effects** (*Vanessa Noqueira (Online) / Ioar Rivas (Online) / Xavier Basagaña (Online)*)
 - 16.25 – 16.35 **T2.2: Oxidative potential** (*Gaëlle Uzu*)

16:35-16:50 Coffee break + Poster session continuation

16:50-17:45 WP2 (continuation)

16:50 – 17:05 **T2.3: Urban mapping** (*Martine Van Poppel & Jelle Hofman*)

17:05 – 17:15 **T2.4: Synergy support** (*Teresa Moreno*) ([Online](#))

17:15 – 17:45 **Discussion and next steps** (*Roy Harrison / Gerard Hoek*) ([Online](#))

17:45-18:45 Website progress and Steering Committee (WP Leaders, Data Manager, Innovation Manager & Risk Manager) & **General Assembly**.

19th October 2023 (Day 2)

PROGRESS OF WP3

08:30-08:50 Modelling ultrafine particles in Europe

Spyros Pandis (Patras University)

08:50-10:20 Progress

08:50 – 09:00 **WP3 Overview** (*Maria Kanakidou*) ([Online](#)) / *Augustin Colette*

09:00 – 09:15 **T3.1: Urban dispersion: street scale and vertical structure** (*Leena Jarvi*)

09:15 – 09:30 **T3.2: Emissions: UFP, downscaling, top-down and bottom-up**

(Jeroen Kuenen / Marc Guevara)

09:30 – 09:45 **T3.3: Regional modelling (OP, UFP, BC, VOC)** (*Augustin Colette / Spyros Pandis*)

09:45 – 10:00 **T3.4: Implement novel AQ indicators in tools supporting policy decision**

making to improve citizen health (*Hilde Fagerli*)

10:00 – 10:30 **Discussion and next steps** (*Augustin Colette / Maria Kanakidou*) ([Online](#))

PROGRESS OF WP4

10:30-10:50 What will we deliver for 3D measurements for AQ that can be offered to stakeholders to be implemented? *Simone Kotthaus (IPSL/CNRS)* ([Online](#))

10:50-11:30 Progress

10:50 – 11:05 **T4.1: Aerosol source apportionment** (*Jean-Eudes Petit / Hilikka Timonen*)

11:05 – 11:20 **T4.2: Aerosol number size distribution** (*Juha Sulo / David Beddows*)

11:20 – 11:35 **T4.3: Novel health indicators** (*Andres Alastuey / Kaspar Daellenbach*)

11:35-11:12:00 Coffee break + Poster session continuation

12:00-13:15 WP4 (continuation)

12:00 – 12:15 **T4.4: Urban mapping** (*Karine Sartelet / Gerard Hoek*) ([Online](#))

12:15 – 12:30 **T4.5: Pollution hot spots** (*Arnoud Apituley*)

12:30 – 12:45 **Collaboration between RI-URBANS & ICOS-Cities pilots** (*Tuukka Petäjä*)

12:45 – 13:15 **Discussion and next steps** (*Tuukka Petäjä / Teresa Moreno*) ([Online](#))

13:15-14:15 Lunch

PROGRESS OF WP5

14:15-14:35 DEFRA's network of supersites: An example supporting implementation and upscaling

Anja Tremper (ICL) / Ian Chen (ICL)

14:35-16:00 Progress

14:35 – 14:55 **T5.1: Data management Plan (DMP) progress and data gathered** (*Wenche Aas / Markus Fiebig (Online) / Cathrine Lund Myhre (Online)*)

14:55 – 15:10 **T5.2: Establishing data quality controls to upscale** (*Ali Wiedensohler (Online)*)

15:10 – 15:25 **T5.3: Implementing the modelling framework** (*Augustin Colette / Maria Kanakidou (Online)*)

15:25 – 15:40 **T5.4: The case study for replicating RI-URBANS in Warsaw** (*Iwona Stachlewska*)

15:40 – 16:00 **T5.5: The road map for upscaling: How WP5 will upscale STs?** (*Paolo Laj (Online)*)

16:00 – 16:30 **Discussion and next steps** (*Paolo Laj (Online) and Mar Viana*)

16:30-17:30 Wrap up of Day 2 & Joint final discussion.

End of the 2nd Science Meeting

5. Attendees

The 2nd Science Meeting attended 63 persons onsite (i.e., face-to-face participation) from 34 different organisations, and 76 persons attended online from 45 organisations. In total we had 135 attendees from 56 different organisations. Below are listed the affiliations of the attendees. Following the RI-URBANS project ethics team recommendations, we do not provide publicly the names of attendees.

63 participants attended the meeting onsite (i.e. face-to-face attendees) from:

1. AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, CSIC (Spain)
2. HELSINGIN YLIOPISTO, UHEL (Finland)
3. CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, CNRS, (France)
4. COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES, CEA-CNRS (France)
5. CONSIGLIO NAZIONALE DELLE RICERCHE, CNR (Italy)
6. INSTITUTE OF ATMOSPHERIC SCIENCES AND CLIMATE (ISAC) – CNR (Italy)
7. ILMATIETEEN LAITOS, FMI (Finland)
8. THE UNIVERSITY OF BIRMINGHAM, UoB (United Kingdom)
9. IDRYMA TECHNOLOGIAS KAI EREVNAS, FORTH (Greece)
10. PAUL SCHERRER INSTITUT, PSI (Switzerland)
11. KONINKLIJK NEDERLANDS METEOROLOGISCH INSTITUUT, KNMI (The Netherlands)
12. VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK N.V., VITO (Belgium)
13. FORSCHUNGSZENTRUM JULICH GMBH, FZJ (Germany)
14. NILU STIFTELSEN NORSK INSTITUTT FORLUFTFORSKNING, NILU (Norway)
15. INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES RISQUES, INERIS (France)
16. IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE, ICL (United Kingdom)
17. INSTITUT MINES-TELECOM, IMT (France)
18. ETHNIKO ASTEROSKOPEIO ATHINON, NOA (Greece)

19. NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK, TNO (The Netherlands)
20. BARCELONA SUPERCOMPUTING CENTER-CENTRO NACIONAL DE SUPERCOMPUTACION, BSC (Spain)
21. INSTITUTUL NATIONAL DE CERCETARE DEZVOLTARE PENTRU OPTOELECTRONICA INOE 2000, INOE (Romania)
22. DELFT UNIVERSITY OF TECHNOLOGY (The Netherlands)
23. EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT, EMPA (Switzerland)
24. METEOROLOGISK INSTITUTT; METNO (Norway)
25. UNIVERSITEIT UTRECHT, UU (The Netherlands)
26. UNIWERSYTET WARSZAWSKI (University of Warsaw, Poland)
27. WAGENINGEN UNIVERSITY (The Netherlands)
28. ENVIRONMENTAL PROTECTION AGENCY OF THE AOSTA VALLEY (Italy)
29. THE CYPRUS INSTITUTE (Cyprus)
30. UNIVERSITY OF WROCŁAW (Poland)
31. UNIVERSITY OF WATERLOO (Canada)
32. ACTRIS (Aerosol, Clouds and Trace Gases Research Infrastructure)
33. IAGOS (In-service Aircraft for a Global Observing System)
34. ICOS (Integrated Carbon Observation System)

76 participants attended the meeting online from:

1. DG. ENV, EUROPEAN COMMISSION (Belgium)
2. World Health Organization, WHO
3. HELSINGIN YLIOPISTO, UHEL (Finland)
4. CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, CNRS, (France)
5. ECOLE NATIONALE DES PONTS ET CHAUSSEES, ENPC-CNRS (France)
6. CONSIGLIO NAZIONALE DELLE RICERCHE, CNR (Italy)
7. INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES RISQUES, INERIS (France)
8. AIRPARIF (France)
9. PAUL SCHERRER INSTITUT, PSI (Switzerland)
10. IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE, ICL (United Kingdom)
11. FUNDACION PRIVADA INSTITUTO DE SALUD GLOBAL BARCELONA, ISGLOBAL (Spain)
12. BARCELONA SUPERCOMPUTING CENTER-CENTRO NACIONAL DE SUPERCOMPUTACION, BSC (Spain)
13. EIDGENOSSISCHE MATERIALPRUFUNGS- UND FORSCHUNGSANSTALT, EMPA (Switzerland)
14. AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, CSIC (Spain)
15. DELFT UNIVERSITY OF TECHNOLOGY (The Netherlands)
16. METEOROLOGISK INSTITUTT, METNO (Norway)
17. ETHNIKO ASTEROSKOPEIO ATHINON, NOA (Greece)
18. NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS", NCSR-D (Greece)
19. NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK, TNO (The Netherlands)
20. ENVIRONMENTAL PROTECTION AGENCY - ARPA VALLE D'AOSTA (Italy)
21. INSTITUTE OF ATMOSPHERIC SCIENCES AND CLIMATE (ISAC) – CNR (Italy)
22. THE UNIVERSITY OF BIRMINGHAM, UoB (United Kingdom)
23. UNIVERSITEIT UTRECHT, UU (The Netherlands)
24. INSTITUT MINES-TELECOM, IMT (France)
25. MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO (Spain)
26. LEIBNIZ INSTITUT FUER TROPOSPHAERENFORSCHUNG e.V., TROPOS (Germany)

27. IDRYMA TECHNOLOGIAS KAI EREVNAS, FORTH (Greece)
28. ILMATIETEEN LAITOS, FMI (Finland)
29. UNIWERSYTET WARSZAWSKI (University of Warsaw, Poland)
30. EÖTVÖS LORÁND UNIVERSITY, ELTE (Hungary)
31. ISTANBUL UNIVERSITY-CERRAHPAŞA (Turkey)
32. COCCOSPHERE (Spain)
33. NILU STIFTELSEN NORSK INSTITUTT FORLUFTFORSKNING, NILU (Norway)
34. UNIVERSITY OF A CORUÑA (Spain)
35. UNIVERSITY OF GRANADA (Spain)
36. SLOVAK HYDROMETEOROLOGICAL INSTITUTE (Slovak Republic)
37. ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT, ENEA (Italy)
38. UNIVERSITY OF MILAN (Italy)
39. AIX-MARSEILLE UNIVERSITY, CNRS-LCE (France)
40. ARPA LOMBARDIA (Italy)
41. INOESY SRL (Romania)
42. WORLD HEALTH ORGANIZATION - REGIONAL OFFICE FOR EUROPE, EUROPEAN CENTRE FOR ENVIRONMENT AND HEALTH, WHO ECEH (Germany)
43. ACTRIS (Aerosol, Clouds and Trace Gases Research Infrastructure)
44. IAGOS (In-service Aircraft for a Global Observing System)
45. ICOS (Integrated Carbon Observation System)

These included also delegates from the 25 RI-URBANS Beneficiaries/Partners, and also invited speakers from WHO, WMO, AQUILA and EMEP. In addition, we had stakeholders from organizations linked with the AQ monitoring competences:

- ARPA LOMBARDIA (Italy)
- ARPA VALLE D'AOSTA (Italy)
- ACTRIS (International)
- AIRPARIF (France)
- EIDGENÖSSISCHE MATERIALPRÜFUNGS- UND FORSCHUNGSANSTALT, EMPA (Switzerland)
- MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO (Spain)

And also, some representatives from the RI-URBANS Associated Collaborators, delegates from cities which are supplying data to RI-URBANS and upscaling the STs, such as:

- AIX-MARSEILLE UNIVERSITY, CNRS-LCE (France)
- ARPA LOMBARDIA (Italy)
- ARPA VALLE D'AOSTA (Italy)
- EÖTVÖS UNIVERSITY, INSTITUTE OF CHEMISTRY (Hungary)
- UNIVERSITY OF A CORUÑA (Spain)
- ISTANBUL UNIVERSITY-CERRAHPAŞA (Turkey)

Moreover, we have numerous attendees from the large ESFRIs that will receive data with harmonise measurements beyond the RI-URBANS project lifetime.

- ACTRIS
- IAGOS
- ICOS



Figure 2. Face-to-face attendees of the 2nd Science Meeting at the Green Village, Delft, the Netherlands. | Robèrt Kroonen.

6. Summary of the outputs

We had a first slot on the morning of 18th October 2023, with a welcome word from the local organizers/hosts of the TU-Delft, followed by the European Commission Project Officer (Dr Gustavo Naumann). He summarised the outputs of the evaluation of the 1st reporting period of the Ri-URBANS project. Afterwards, the coordinators of RI-URBANS summarised the actions devised to implement the requests from the referees. Following this, the same slot included three invited talks on the update of the WHO actions on air quality, the recent advances on harmonising measurements of oxidative potential and the application of boundary layer research to air quality and climate sciences. We also invited a talk from the GD-STARGATE project on UFP in airports, with which we started an interesting collaboration.

Later on, individual slots for each WP allowed the presentation of key issues of the specific WP topics, and the presentation of the progress of the WP tasks. This also included the presentation of the actions taken to implement the requests of the reevaluation process: Easier open data access and to the description of the Service Tools; implementation of co-design of STs with stakeholders; more accessible presentation of the progress of the project in the website, how upscaling is being carried out, were the major ones.

On 18th October, the Steering Committee meeting and General Assembly took place with delegates/representatives from 23 (of 25) Beneficiaries/ Partners (missing TROPOS and UU) and all the WP leaders, project coordination team and gender, ethics, data management, and innovation managers. The agenda included the following topics: 1) Start of the meeting, 2) Attendance, 3) Roadmap to respond to the evaluator comments, 4) End of meeting.

After confirming the participation of the beneficiaries, the coordinators presented the roadmap to answer the issues raised in the project evaluation meeting of the RI-URBANS by the European Commission. The action points included a detailed description of RI-URBANS Service Tools (STs), their description as well as representation in the RI-URBAN website in a format that is easily understandable and accessible by the stakeholders. The website will provide a clear pathway including step-by-step explanation of the requirements and required resources that are needed to establish a service tool in a new environment.

Finally, on the afternoon of 19th October 2023, a final discussion and wrap up session took place. The list of decisions and agreements is the following:

1. The list and links for STs are ready and will be reviewed by all WP leaders during October-November 2023, before it is uploaded in the RI-URBANS website. More STs can be added, and the existing ones will be revised and completed. We gave a deadline of one extra month.
2. There is a need to add a ST on data management.
3. Some STs are ready to be delivered. Some other STs require further research and development, beyond the RI-URBANS lifetime to be harmonised. Thus, in these cases a discussion is needed to show the need of further work, but the best options with the current state of the art should also be provided.
4. We will organise WP leader online meetings every 2 months because now we need to foster interactions.
5. We will organise a meeting with AQUILA to discuss specific STs that we offer to reach consensus on specific measurement protocols.
6. The need to involve more actively stakeholders in upscaling activities.
7. The new progress in the RI-URBANS public website (called RI-URBANS roadmap) was presented, and it is nearly ready to be accessible.
8. An easier open data access is nearly ready to be included in the web, and a substantial progress has been achieved in the data availability.

9. There is a need to intensify interactions with ICOS-Urban, IAGOS, and other Green Deal (GD) projects: A webinar will be carried out with the GD Support Office to this end, but the collaboration has to be shown in a specific section of the RI-URBANS public website.
10. The link with the Copernicus Atmosphere Monitoring Service (CAMS) is ongoing, it is beneficial for both sides, and this has to be enhanced.