



ATMO ACCESS

Access to Atmospheric Research Facilities

**TRANS-NATIONAL ACCESS (TNA) TO THE
ATMOSPHERIC RESEARCH FACILITIES OF EUROPE**

OPPORTUNITIES FOR PUBLIC AUTHORITIES

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POLISH STAKEHOLDERS MEETING 23 FEB. 2023



Objectives of this talk

- **Communicate** the Atmospheric Infrastructure and Services of Europe to public authorities
- **Attract** the interest of the Polish public sector, dealing with the quality of the atmosphere
- **Provide** examples of why you can benefit from ATMO-ACCESS
- **Give** information about how you can be an applicant and get access to data and services from European Atmospheric Research Facilities





Who is it for ?

- **Public** authorities and environment agencies interested in enhancing their **air quality** monitoring capacities
- Polish **research** institutions who (want to) collaborate with the local **public** authorities for atmospheric purposes, but provision of research infrastructure and/or data and/or human power from facilities **abroad** is essential.





Rapid response to atmospheric pollution episodes: Request by the

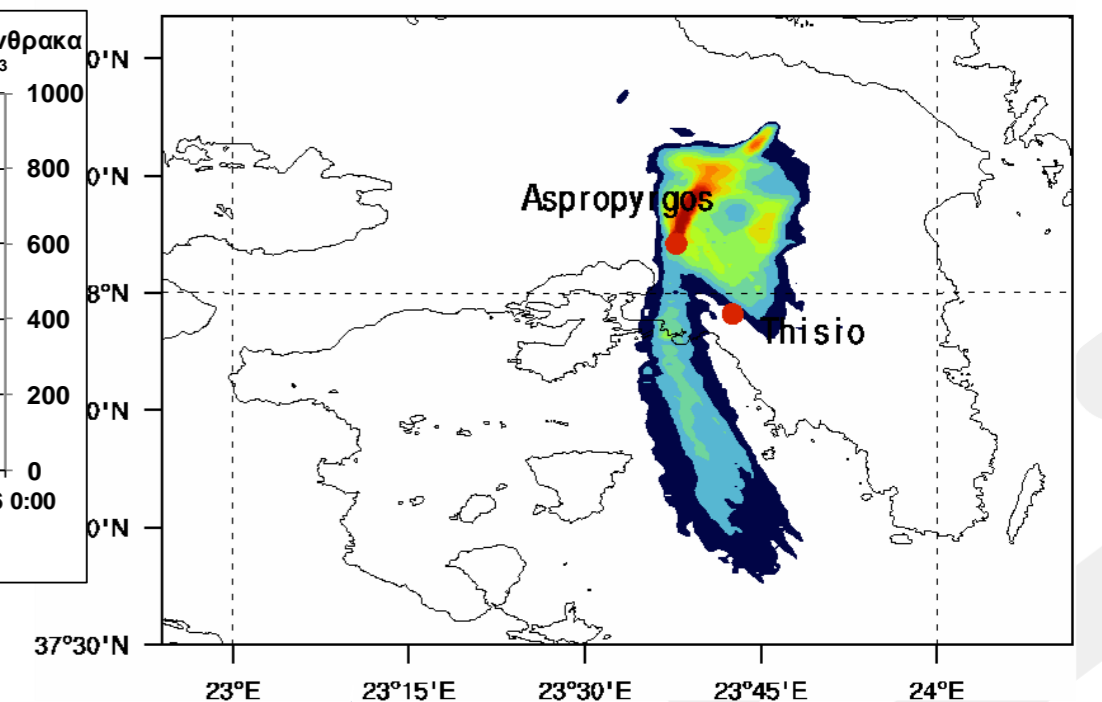
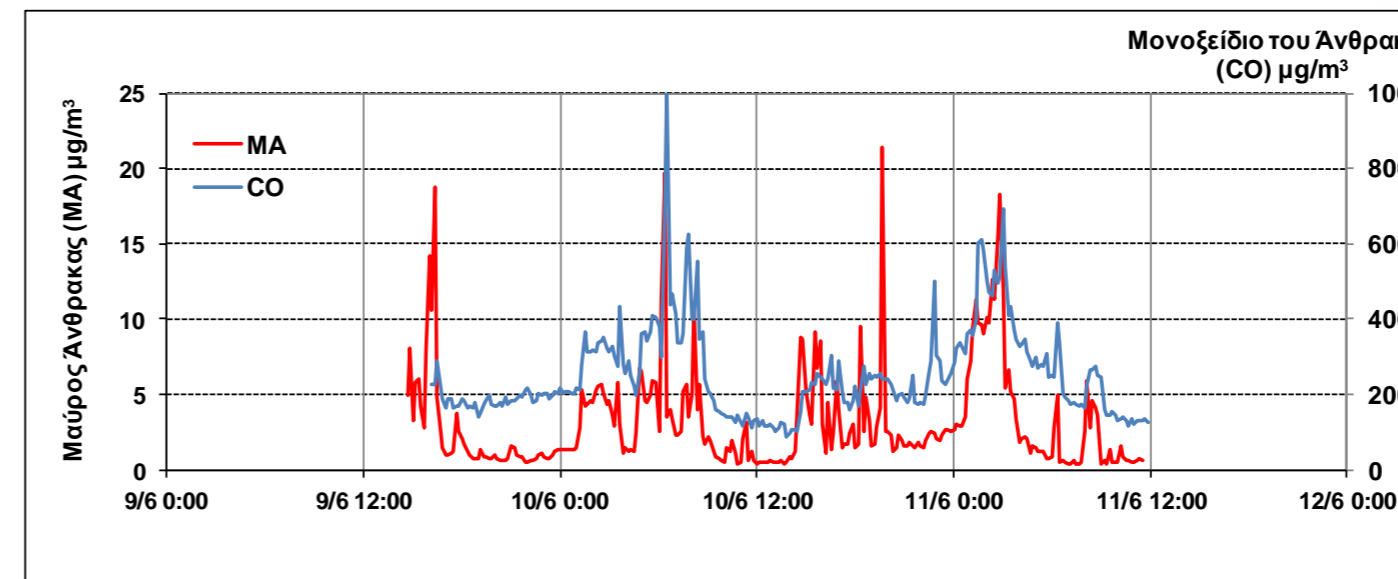
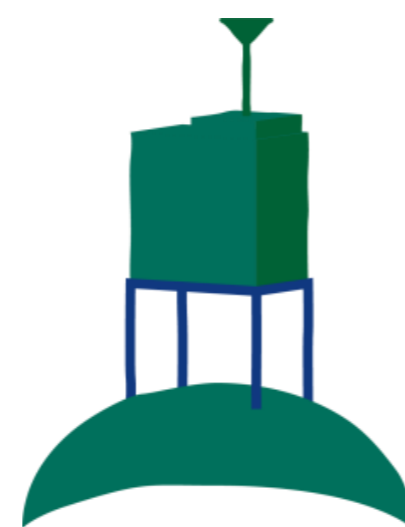
Industrial accident (June 6, 2015)

Atmospheric RIs Expertise & Equipment



BEYOND / NOA FLEXPART
Smoke Integrated Column

valid:09-06-2015 1300 UTC
(Arbitrary Values)



Support of informed decision making

Eleni Athanasopoulou, eathana@noa.gr
for ATMO-ACCESS project





Outline of this talk

1. What is ATMO-ACCESS ?
2. Why public authorities can benefit from this project ?
3. How can you get access to the atmospheric facilities provided in ATMO-ACCESS ?
4. Discussion – Questions



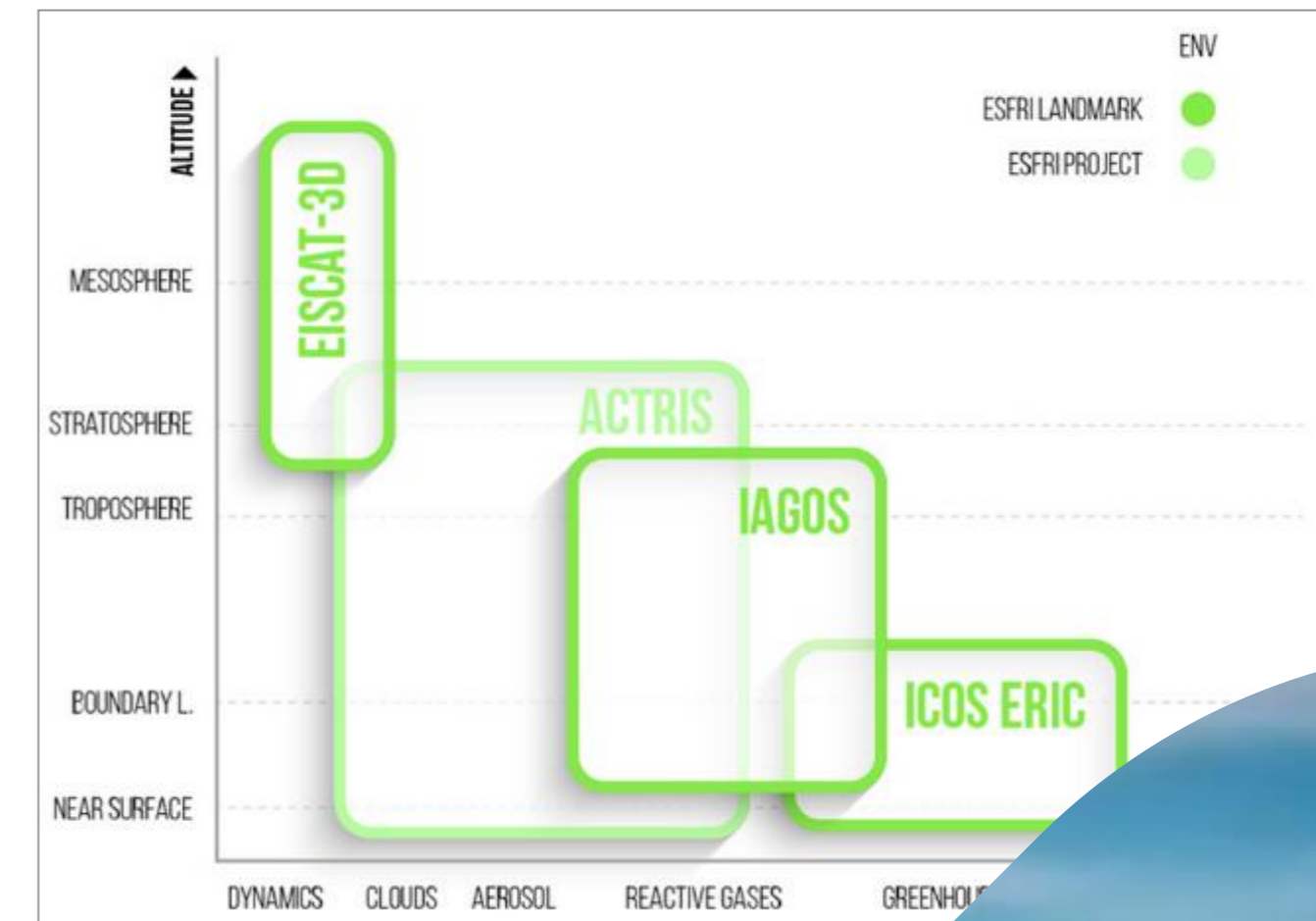


I. Introduction to ATMO-ACCESS

<https://www.atmo-access.eu/>

Solutions for Sustainable Access to Atmospheric Research Facilities

- Pilot for a new model of integrating activities
- Optimized access and use of services by state-of-the-art facilities and development of improved services
- 3 atmospheric RIs – ACTRIS, ICOS-ERIC, IAGOS
- 38+19 participating institutions from 22 European countries (coordinated by CNRS)
- Duration: 1 April 2021 – 31 March 2025
- Budget : 15 M€

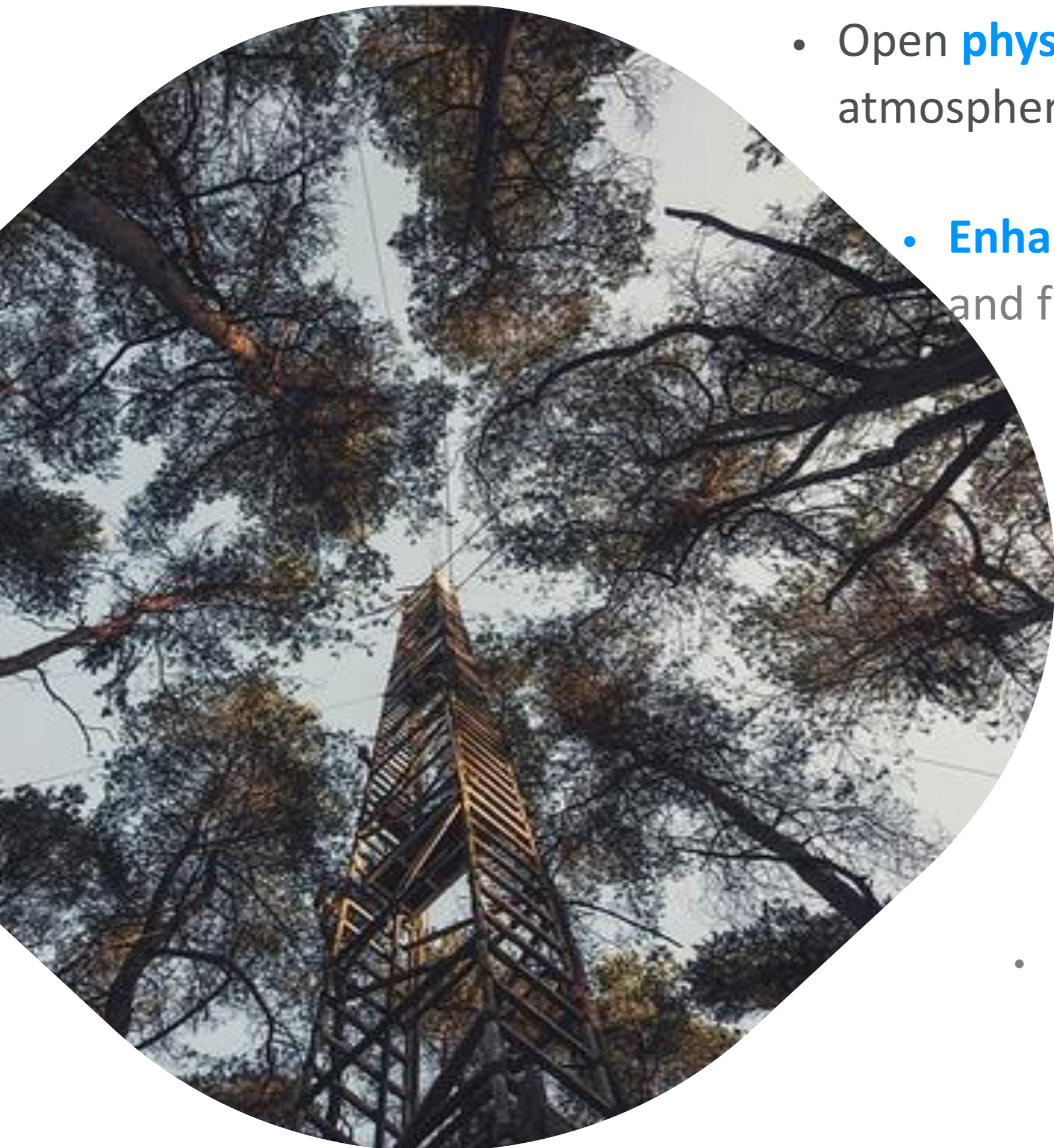




I. ATMO-ACCESS objectives

<https://www.atmo-access.eu/>

- Open **physical, remote and virtual access** for users to >50 state-of-the-art facilities and services in atmospheric Research Infrastructures in Europe.
- **Enhancing the spectrum of products, capabilities and accessibility** for a wide range of users and further advancing the available services, including online services.
- **Exploring and testing new modalities of access – flexible, innovative, tailored.** Building on the complementarity and synergies among atmospheric RIs and responding to evolving needs of users in relation to training, research and technology development, innovation and data services.
- Developing **guidelines and recommendations** for governance, management and funding for efficient and effective access provision
- Identifying the **most suitable conditions for establishing sustainable access procedures** across the EU for distributed atmospheric RIs, **involving national and international stakeholders.**





I. Access Providers (TNA-VA platforms)

<https://www.atmo-access.eu/facilities/>

Physical and remote access opportunities to >40 selected facilities



Observational facilities



Atmospheric Simulation Chambers



Mobile Facilities



Central Laboratories

Physical + Remote Access

Virtual access opportunities to users (10 online platforms)



Virtual Facility

Virtual Access





I. Observational platforms

1. AGORA, Spain
2. ATMOS, Greece
3. BCN, Spain
4. CESAR, The Netherlands
5. CMN-PV, Italy
6. EVASO, Portugal
7. FKL, Greece
8. HTM, Sweden
9. NAOK, Czech Republic
10. RADO, Romania
11. SBO, Austria
12. SIRTA, France
13. WOS, Poland
14. ISAF, Spain
15. JFJ, Switzerland

New instrument testing

Calibration

Mobile units/ Portable instrumentation (e.g. aerosol lidar)

Access to datasets

Data analysis

Training





I. Atmospheric simulation chambers

1. ACD-C and LACIS-T, Germany.
2. QUAREC QUArtz Reaction Chamber, Germany
3. CESAM Experimental Multiphasic Atmospheric Simulation Chamber, France
4. HELIOS Chamber Orléans, France
5. ChAMBRe Chamber for Atmospheric Modelling and Bio-Aerosol Research, Italy
6. IASC Irish Atmospheric Simulation Chamber, Ireland

Testing (calibration, intercomparison) new (eg particle, bio-aerosol) sensors

Training on/ testing of analytical instrumentation

Sample analysis/experiments





I. Central Laboratories

I. World Calibration Center for Aerosol Physics, Germany



Quality-assurance of physical and optical in-situ aerosol measurements achieved via instrument intercomparisons, calibration workshops, round-robin test and on-site intercomparisons

Capacity building to perform high-quality physical and optical in-situ aerosol characterization via on-site trainings and trainings in the calibration workshops

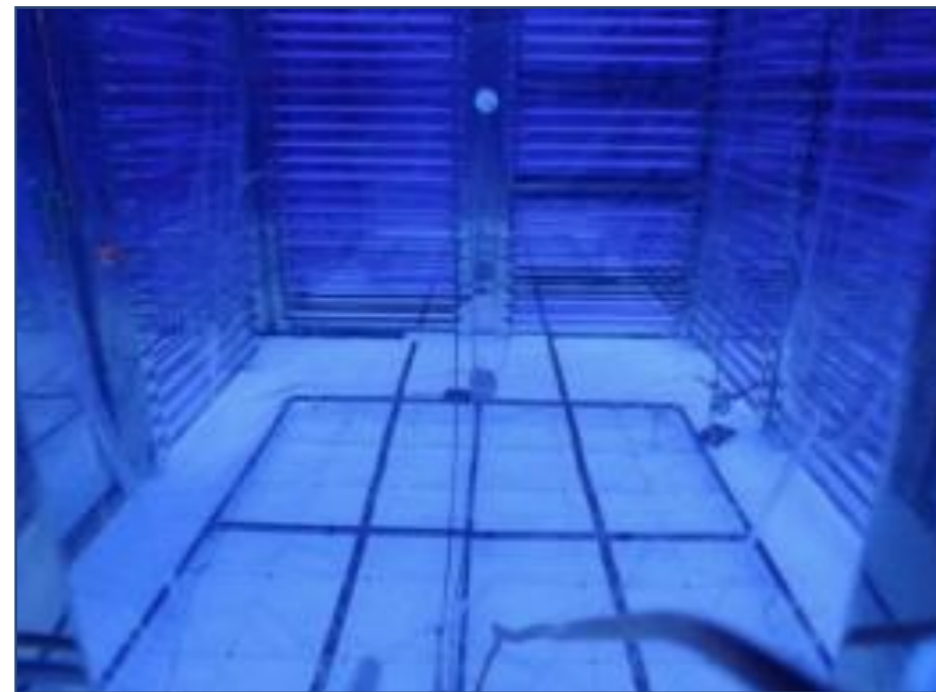


I. Mobile Exploratory platforms

1. FORTH-MSC, Greece
2. LACROS, Germany
3. USRL, Cyprus

Workshop outcome:
The mobile platforms are a good tool
to the TNA of public authorities to
the ATMO-ACCESS facilities

Instrument/algorithm testing and validation, air pollution source testing,
Unmanned Aerial Vehicles



<https://www.atmo-access.eu/facilities/>



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2. Why public authorities can benefit from ATMO-ACCESS ?

- Routine monitoring of air pollutants/ Compliance to National/ EU Directives
- Characterization/ Assessment of atmospheric episodes, e.g., industrial accidents, local air pollution events, peri-urban fires
- Simplified and/or added-value air quality products to provide the health sector/ studies
- Long-range transport of particles
- Specialized measurements (e.g. New pollutants, Ultra-fine particles, Particle size range, Chemical composition)
- ...



2. Why public authorities can benefit from ATMO-ACCESS ?

- **Scenario I:** You want to perform an intensified measurement campaign at your urban hotspot, to reveal the **important sources of air pollution in the area**. Specialized instrumentation, parameters and human experience are necessary for this purpose.
- **Possible solution through ATMO-ACCESS:** one or more European research facilities can bring **mobile instrumentation**, perform the campaign, and deliver the data which reveal the air pollution sources to prioritize mitigation for.



2. Why public authorities can benefit from ATMO-ACCESS ?

- **Scenario II:** You plan to purchase new **instrumentation for air quality** monitoring in your area, and you need experienced personnel to guide and help you start with this new monitoring activity.
- **Possible solution through ATMO-ACCESS:** experienced researchers from a European RI can perform the **installation of sensors** to selected/representative sites of the city and **train** your personnel to perform routine measurements and exploit the data acquired.



2. Why public authorities can benefit from ATMO-ACCESS ?

- **Scenario III:** You plan to complement your existing regulatory network of AQ stations with low-cost sensors, but you need expertise and certified instrumentation to **calibrate and validate** them.
- **Possible solution through ATMO-ACCESS:** you / your instrumentation can travel abroad to one of the research facilities hosting **high quality instrumentation** ordinarily used for the calibration of low-cost sensors, to perform the cal/ val procedures.



2. Why public authorities can benefit from ATMO-ACCESS ?

- **Scenario IV:** You want to have a **vertical profile of air pollution** over your hotspot area, but your National in situ instrumentation provides only surface AQ measurements.
- **Possible solution through ATMO-ACCESS:** Unmanned Aerial Vehicles (**UAVs**) operated by the mobile platforms can perform local measurement campaigns for this purpose.





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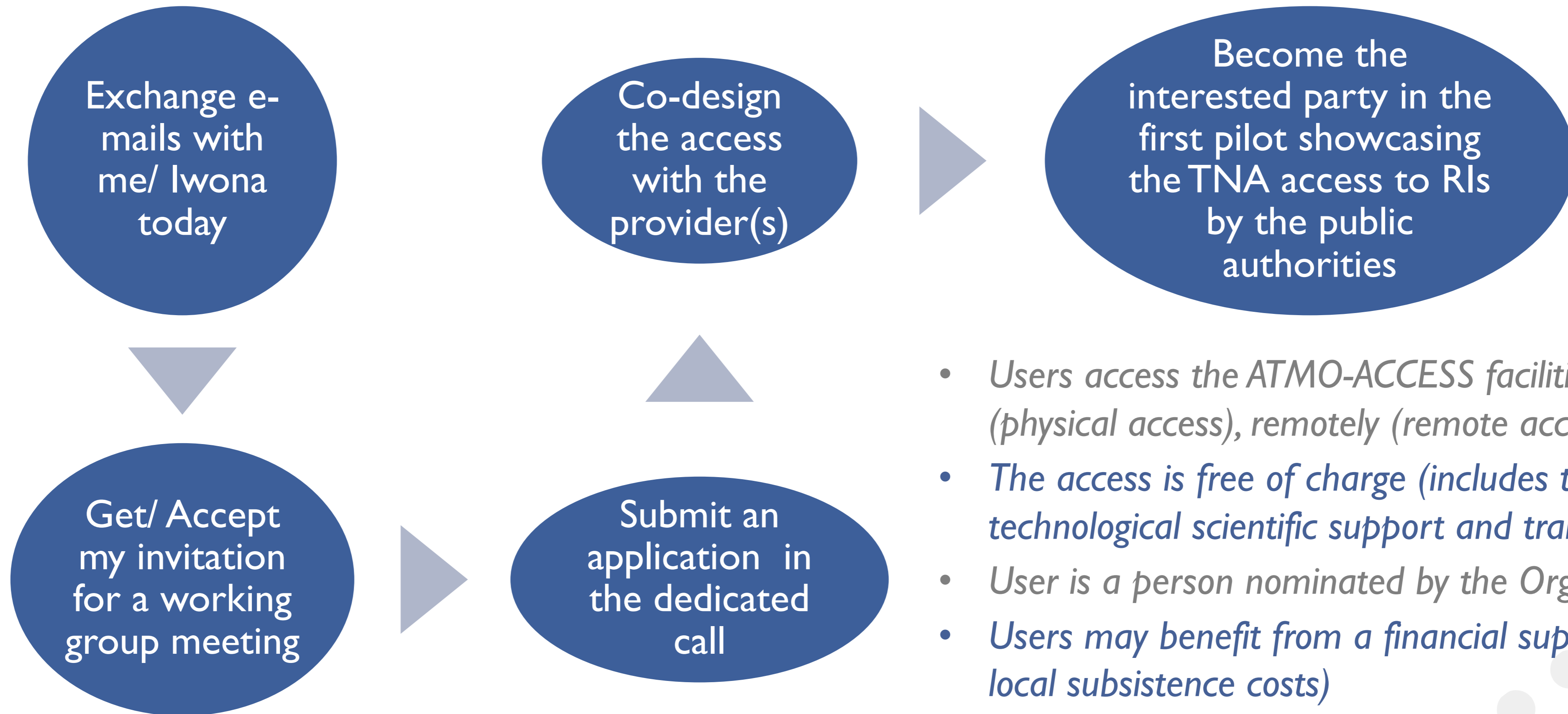
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3. How can you get access to the atmospheric facilities ?

<https://www.atmo-access.eu/tna-call-application/>



- *Users access the ATMO-ACCESS facilities in person (physical access), remotely (remote access) or both.*
- *The access is free of charge (includes the logistical, technological scientific support and training)*
- *User is a person nominated by the Organization*
- *Users may benefit from a financial support (travel and local subsistence costs)*



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