



*Future smart city environment: Innovative air pollution monitoring network using info kiosk benches – ID T02151*

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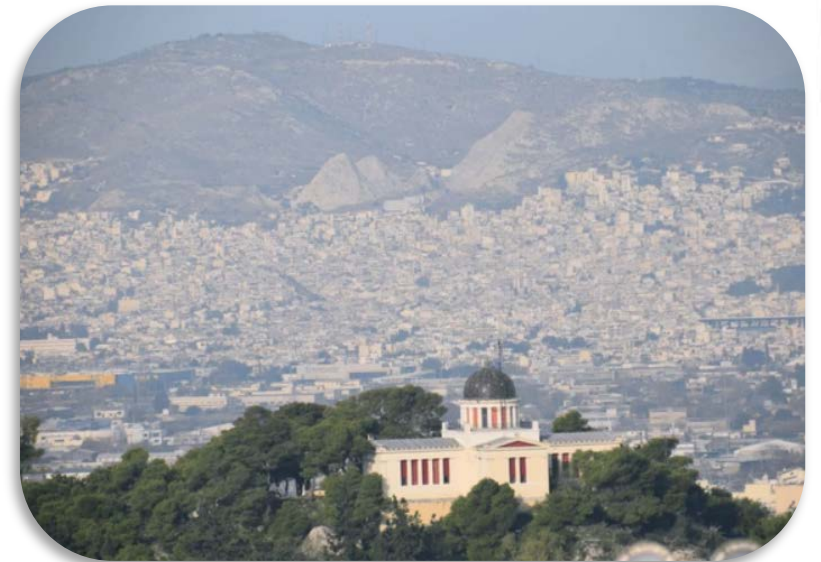
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# Air quality on the Greater Athens Area (GAA)

- The study of air pollution in the densely populated Attica region, which includes residential and industrial areas, is particularly important.
- High concentrations of gaseous pollutants and particles, continue to be recorded and lead to the degradation of air quality in many areas.
- Environmental policies implemented so far:
  - ✓ have contributed to the gradual reduction of pollutant emissions and
  - ✓ should be continued, enriched and possibly tightened
  - ✓ with the goal of environmental, aesthetic and economic upgrading of the areas.

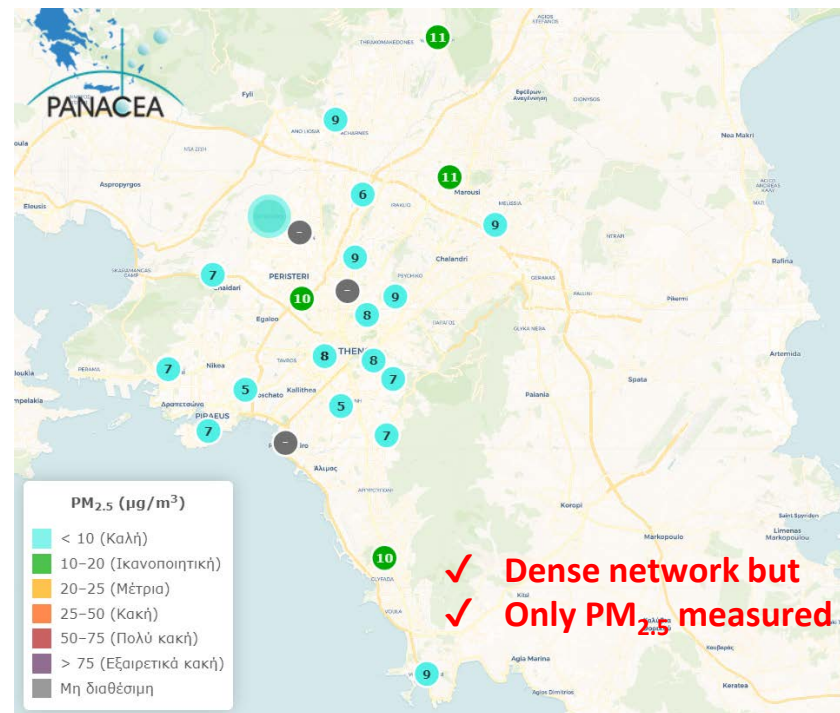
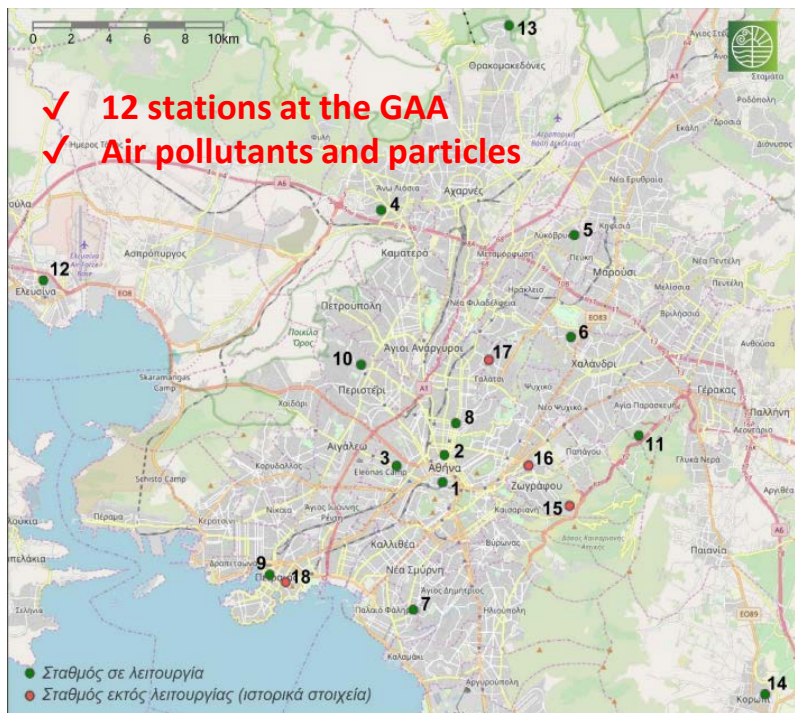


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# Air Quality Networks in the GAA

Air quality network operated by the Ministry of the Environment and Energy ([ypen.gov.gr](http://ypen.gov.gr))

[Panacea \(panacea-ri.gr\)](http://panacea.panacea-ri.gr)



The air quality network in Attica region is not dense enough to provide sufficient knowledge and representative measurements for the region. The hot spot areas are not depicted sufficiently and the parameters that define the air and particulate pollution episodes as well as the citizens' exposure, are not presented adequately.



Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης

# The problem...

1

Citizens have little or no access to information on local air quality, the personal exposure and the actions that people could take to improve air quality at their neighborhood and consequently reduce the effects on health.

2

This leads to social inequalities and the creation of areas of degraded air quality. Finally, among the local authorities' priorities are the provision of high-quality services. Even when infrastructures and plans exist their implementation is not always possible due to the lack of the scientific knowledge, trained staff and/or the funds.

3

As a result, the design of strategies and the implementation of measures towards the improvement of air quality, the consequent decrease of high pollutants concentrations and the frequency of their occurrence should be enriched.



# The Faircity project



Development of an innovative air pollution monitoring network to measure personal exposure at an urban environment

Five smart air quality stations will be deployed in two different municipalities across the GAA.

They consist of sensors, embedded in an info kiosk bench, measuring continuously 10 parameters:

- ✓ *air pollutants (CO, NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>) and CO<sub>2</sub>,*
- ✓ *particles (PM<sub>10</sub>, PM<sub>2.5</sub>, PM<sub>1</sub>) and*
- ✓ *meteorological parameters (temperature, humidity).*



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# Info kiosks characteristics

1. The benches offer:
  - ✓ *mobile device/tablets charging points,*
  - ✓ *free WiFi service,*
  - ✓ *speakers for conveying messages and*
  - ✓ *special sockets for charging wheelchairs*
2. They are anti-vandal constructions  
(made by metal and wood)
3. They use and store solar energy through  
photovoltaic panels



# Main goals and actions of the FAIRCITY project

Smart air quality stations will be produced combining air pollution recording with sharing of important information on community events, news, weather and public initiatives.

Interactive kiosk will give information about air quality in the form of simplified indicators along with other information with the purpose of increasing citizens' awareness, informing and help understanding the connection of air pollution with the spread of diseases.

In addition, with the already developed application that the benches have, and which will be interconnected with the website of each municipality, the citizens will be able to use their mobile phone to receive information and to communicate with their Municipality.



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# Benefits for the local community

## For the citizens

Aware of the air quality at their neighbourhood

## For the local economy

- ✓ The right conditions will be created for the development of new additional "smart" city networks, provision of vehicle traffic data and free parking spaces, "smart" LED lamps, "smart" waste bins,
- ✓ Investment opportunities by companies in sustainable development and green energy sectors

## For the local authorities

- ✓ Optimisation of infrastructure regarding the environmental management
- ✓ Be informed about plans and actions towards the "green development"
- ✓ The foundations for the development of a smart city network that will modernize and improve the quality of life of its citizens will be created.





# Thank you for your attention!!!



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*“It is of great importance to protect our health and the environment. It concerns each one of us personally and has benefits for everyone. There is no need to try hard; just be informed, and in communication with the local authorities”*

*Dr. Assimakopoulos Vasiliki, PI of the Faircity project*

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