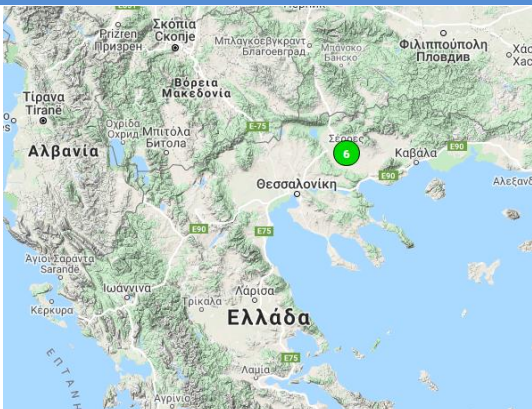


Case Study

Air and climate quality monitor in the city of Serres



Monitoring air quality and climatic conditions in the city of Serres

GENERAL DESIGN INFORMATION

A network of three environmental stations was installed. Each station has sensors for measuring air pollutants, microparticles and a complete weather station.

The stations were installed: a) at the West Entrance of the city, b) at the East Entrance of the city and c) on the Central Square. The data center for receiving and processing of the measurements was installed in the City Hall.

Data transmission is based on wireless technology, without the involvement of mobile telephony.

The data is downloaded from the station to the data center and sent every 5 minutes.

IN BRIEF

System : Network of Automatic Telemetry Environmental Stations

Location : city of Serres

When : Completed in January 2020

ADMINISTRATOR

Department of the Environment, Management of Technical Services, Municipality of Serres

IMPORTANT !

Low maintenance requirement, low operational cost

IMPORTANT !

Zero cost for telemetry



THE PROBLEM

The challenge faced by the project was to achieve effective and continuous monitoring of air quality and climate conditions in the city of Serres, with low operating costs, which would not jeopardize the viability of the project.

THE SOLUTION

Following an open bidding process, the Municipality of Serres procured a network of environmental stations, based on **AEROQUAL**'s integrated **AQM 65** air quality measurement systems, in combination with **METER**'s weather stations and **ADCON Telemetry** telemetry units. The network was designed and installed by our company.

EVALUATION

It is an integrated online network of high fidelity and accuracy. It provides a comprehensive range of measurements of the most important gaseous pollutants, microparticles and climate parameters, with low maintenance and calibration costs.

Minimal human intervention is required, and data via wireless and internet is easily accessible to services and operators.

Climate data is available online to citizens through a simple and supervisory web application.

“Stations are not reference stations, but they provide accurate and continuous measurements, making it possible to estimate the city's total air pollution”

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GASES

Hydrogen Sulfide (H₂S)

CSE sensor technology
and built-in reset system

Nitrogen Dioxide (NO₂)

CSE sensor technology
and built-in reset system

Ozone (O₃)

GSS sensor technology
and built-in zero reset system

Nitrogen Oxides (NO_x)

CSE sensor technology
and built-in zero reset system

MICROPARTICLES

TSP

PM₁₀

PM_{2.5}

PM₁

Laser analyzer technology

METEOROLOGICAL

Air Temperature and Humidity

Wind Speed and Direction

Wind gust

Total Solar Radiation

Rain

Barometric pressure

NOISE

Only on the Central Square

Contact Info

16 Kanari str.
54644 Thessaloniki
Tel: +30 2310 946 126
Fax: +30 2310 947 005

14 Etolias str.
15231 Chalandri, Athens
Tel: +30 210 67.28.585
Fax: +30 2310 947 005

sales@scientact.com.gr

www.scientact.com.gr

