

# Development of a Monitoring and Forecasting Air Quality Modelling System

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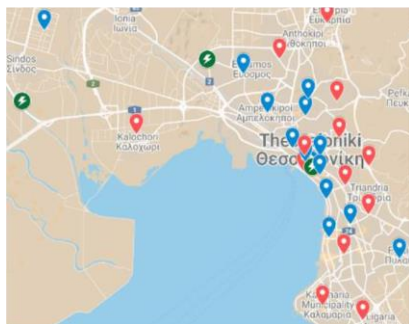
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The KASTOM (air quality monitoring and forecasting system) program combines a network of low-cost microsensors (Internet of Things - IoT), application of three-dimensional air quality models (WRF/CAMx) and innovative models of anthropogenic and natural emissions (MOSESS/NEMO), computational intelligence methodologies, SaaS services (Software as a Service) / PaaS (Platform as a Service) as well as information to the involved bodies and citizens.

<http://app.air4me.eu/>

## Set-Up in Thessaloniki

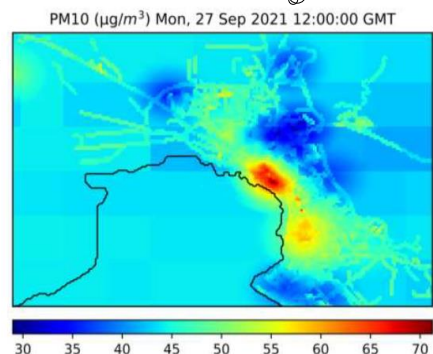
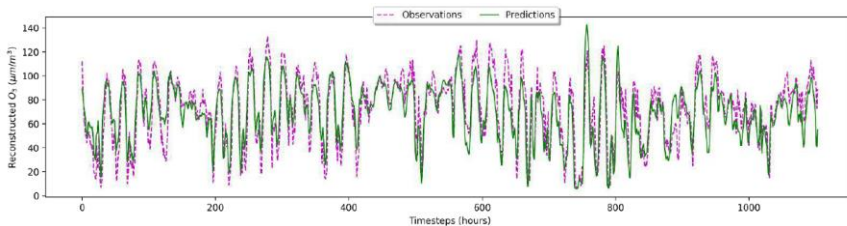
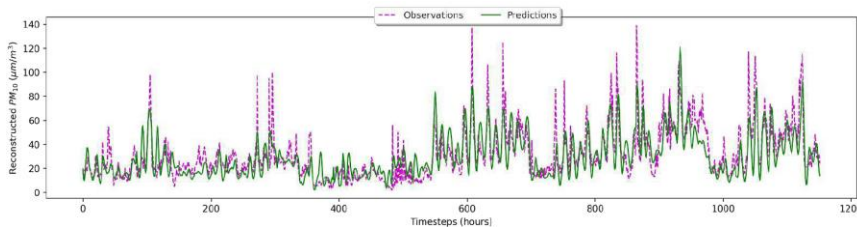


- 3 collocated pairs (green)
- 30 low-cost multi-sensor devices a.k.a. IoT nodes
- Temperature, Relative humidity, Pressure (Bosch Sensortec)
- PM1, PM2.5, PM10 (Plantower PMS5003, all nodes)
- O3, NO2, CO (Alphasense, only in blue nodes)
- LoRaWAN communication

KASTOM Node



Resolution: 100m x 100m



- Three-level nesting for meteorological and AQ forecasting
- 33 LCAQSN: (PM10, PM2.5, CO, NO2, O3 & meteo)
- AQ data fusion