

COMPLEX STUDY BY NUMERICAL SIMULATION AND MONITORING IN SITU, ON THE OPORTUNITY OF RELOCATING THE STATION TIM-I OF THE NATIONAL NETWORK OF AIR QUALITY MONITORING TOWARD TWO OTHER POTENTIAL NEIGHBORING LOCATIONS. OPINIONS REFERRING TO ITS MONITORING CAPACITY IN A NEW LOCATIONS.

Goal of the project

The scope of the project is to determine a novel position for an existing monitoring station from the national monitoring system of Romania, situated in Timisoara, as a traffic station and named TM1. The development of the city needs the prolongation of the public transport lines, in terms of an extension of the tram line, which is supposed to pass over the present position of TM1. Thus the relocation of the traffic station is analyzed critically, from the point of view of (i) respecting the present EU legislation on air quality, and (ii) in respect to offering the most beneficiary and representative opportunities for monitoring.

Short description of the project

- Online air quality campaigns accomplished on a traffic & residential zone from Timișoara, Romania by the UPT accredited lab;
- Dispersion modeling of several episodes, in three potential locations;
- Correlation between the values measured, with the values generated by dispersion modeling, under the same conditions, in the same location;
- Comparison between the values measured by the accredited lab and those generated by TIM-1.

Project implemented by

Local economic and administrative bodies, under the coordination of City Hall Timisoara - in order to achieve a possible implementation in the next future, based on the results of the project, supporting administrative, legal decisions.

Implementation period

May 2016 - December 2016

Main activities

- Study of the relocation possibilities. Planning the strategy of the measuring campaigns (on line, in situ);
- Calibration of the instrument, according internal procedures of the lab;
- Calculation of the concentrations measured and graphical representation of the Results of online air quality campaigns accomplished on a traffic & residential zone from Timișoara, Romania;
- Results of dispersion modeling of several episodes, in three potential locations
- Correlation between the values measured, with the values generated by dispersion modelling, under the same conditions, in the same location

Results

- Very good correlation between the NO measured values, both by the accredited lab, as well by the official station TIM-1.
- Lack of evidence for some concentration values for species through the TIM 1 station, especially PM measurements

Applicability and transferability of the results

- The relocation of the present TIM1 to another position is possible, by maintaining the representativeness of the measured values, in terms of air quality;
- Research results permit comparisons and conclusions, the values recorded by the accredited lab being very important and more complex, as these offered by the fixed traffic station TIM-1, in the present position/shape;
- The development of the city transport system can be continued / prolonged; the new location fits the present legislation regarding the location of traffic stations, in terms of air quality monitoring.
- The simultaneous measurements organized, offering the possibility of a comparison between measured values by two stations/labs (one accredited lab and one official Lab TIM1), support the research conclusions, as well developing of a novel method for impact depicting of a certain source upon a specific point. .

Research Centre

Research Centre for Thermal Machines & Equipments, Transportation and Environmental Pollution Control

Research team

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