

Micro-sensors : innovative, high-performance, low-cost tools for measuring air quality in the urban area of Agadir

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The implementation of a conventional air quality measurement device requires considerable practical difficulties to be overcome, in particular the cost of the instruments and the necessary logistics. We propose an alternative to such a network, by limiting for the moment to particulate pollution, by taking advantage of the appearance on the market of powerful miniaturized sensors able to measure the concentrations of main pollutants with very satisfactory metrological performances.

The approach envisaged is to develop in the urban area of Agadir city a network of portable environmental micro-sensors, based on the APOLLINE project (Air pollution and individual exposure) of the University of Lille. It is a tool of complementary scientific understanding of the available regulatory instruments, but also a public support tool for the management of air quality and urban planning, and also a tool for raising citizens' awareness. Easy to deploy, low-cost, small and easily connectable, the micro-sensors give a fast information on the levels of the PM with a reliability quite acceptable in terms of the guide values for this type of pollutant. The micro-sensor network envisaged will allow in particular a real-time mapping of particulate pollution in the territory of the Urban Community of Agadir.

In this intervention, we will present the innovative nature of the use of these miniaturized instruments and the change in practice of appropriating issues related to air quality and the dissemination of scientific information. This contribution will be illustrated through daily measurements conducted on the same trip, to identify trends in air quality throughout this journey, depending on the day of the week.