

## **The city of Uppsala and Sustainable Innovation (NGO)**

The city of Uppsala in Sweden is actively working on reducing emission and improving air quality (mainly particles) and noise levels within its boundaries through innovative grid level measurements (large scale sensor installation, 40-50 units) and control techniques. Sensor data along with supplementary data (traffic, vehicle types, weather, wood stove etc.) is then analyzed to calculate causal relationships between, for example, air environment and traffic (Surprisingly, the scientific basis for causality e.g. for traffic and air quality is still limited, even internationally). Analysis will provide a basis for preventive measures to be taken even before health hazardous air quality levels are reached. In the long term, it should be possible to diagnose the air environment and to intelligently implement fact-based measures; one of the first steps towards a SMART city where the city's infrastructure and measurement is an important part of the puzzle. Just as we are seeing how AI through spotting keys signs early can assist in predicting dementia, so too can AI spot early the signs of high pollution in urban areas thus enabling preventative measures to be implemented to avoid high levels.

As with many European cities of similar size and number, Uppsala currently has no tolling infrastructure and is therefore looking to implement a combination of technical (e.g. I2V), regulatory and behavioural (citizen engagement) solutions as measures to reduce or prevent the high pollution levels that we know are posing a health threat to the citizens living and working in the urban environment. Uppsala, with the help of Sustainable Innovation (a non-profit organization within energy and resource efficiency, with many years of EU project experience), is looking to participate in a European consortium under the H2020 programme in the above topic mainly as a pilot or demonstrator city. While the call does ask for the development of automated tolling systems, there is good reason to consider cities that do not have this infrastructure but still wishes to meet emission and air quality targets by taking action based on high quality data.

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