# **Projet PPE:** Evaluation Of Air Pollution Based On Road Traffic Congestion in Urban Areas

Septembre 2019

In order to evaluate traffic congestion on urban roads and study their impact on air quality, we propose to develope an IoT application based on traffic management. Successful development of effective real-time traffic management and information systems requires high quality traffic information in real-time [1]. This project presents the state-of-the-art of traffic management for data pre-processing and cleaning for real-time applications. Such application is extremely important to evaluate the impact of road traffic congestion on the environment, therefore, the reliability of information and outputs derived from data fusion and processingis extremely important to provide knowledge of the air quality at each time. Mitigating traffic congestion on urban roads, with paramount importance in urban development and reduction of energy consumption and air pollution [2], depends on our ability to foresee road usage and traffic conditions pertaining to the collective behavior of drivers. The goal of this project is to simulate traffic with SUMO [3] and study the relationship between air pollution and traffic congestion.

## References


[1] J. Lopes et al. " Traffic and Mobility Data Collection for Real-Time Applications ". In: *13th International IEEE Conference on Intelligent Transportation Systems*. 2010 13th International IEEE Conference on Intelligent Transportation Systems - (ITSC 2010). 00021. Funchal, Madeira Island, Portugal: Sept. 2010, pp. 216–223 (p. 1).

[2] Jingyuan Wang et al. " Predictability of Road Traffic and Congestion in Urban Areas ". In: *PLOS ONE* 10.4 (Apr. 7, 2015). Ed. by Matjaz Perc. 00030, e0121825 (p. 1).

[3] Michael Behrisch et al. " SUMO – Simulation of Urban MObility ". In: (2011). 01253, p. 7 (p. 1).