Analysis and Visualization of Urban Emission Measurements in Smart Cities

Cities worldwide aim to reduce their greenhouse gas emissions and improve air quality for their citizens. Therefore, there is a need to implement smart city approaches to monitor, model, and understand local emissions to better guide these actions. We present our approach that deploys a number of low-cost sensors through a wireless Internet of Things (IoT) backbone and is thus capable of collecting high-granular data. Based on a flexible architecture, we built an ecosystem of data management and data analytics including processing, integration, analysis, and visualization as well as decision-support systems for cities to better understand their emissions. Our prototype system has so far been tested in two Scandinavian cities. We present this system and demonstrate how to collect, integrate, analyze, and visualize real-time air quality data.

General information
Publication status: Published
Organisations: Department of Management Engineering, Systems Analysis, Norwegian University of Science and Technology, AIA Science
Number of pages: 4
Publication date: 2018

Host publication information
Title of host publication: Proceedings of the 21st International Conference on Extending Database Technology (EDBT)
Publisher: OpenProceedings.org
ISBN (Electronic): 978-3-89318-078-3
Electronic versions:
ctt_data_analysis_ecosystem_2_.pdf
URLs:

Bibliographical note
Distribution of this paper is permitted under the terms of the Creative Commons license CC-by-nc-nd 4.0.
Source: PublicationPreSubmission
Source ID: 143565270
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review