Big open data platform in Stockholm

Smart solution 8
Big open data platform

Impacts

TRACKS
bicyclists and pedestrians

ASSIST
citizens to avoid congestions

TRACKS
vehicle flows & emission impacts

Stockholm

Technical partners

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What is it?

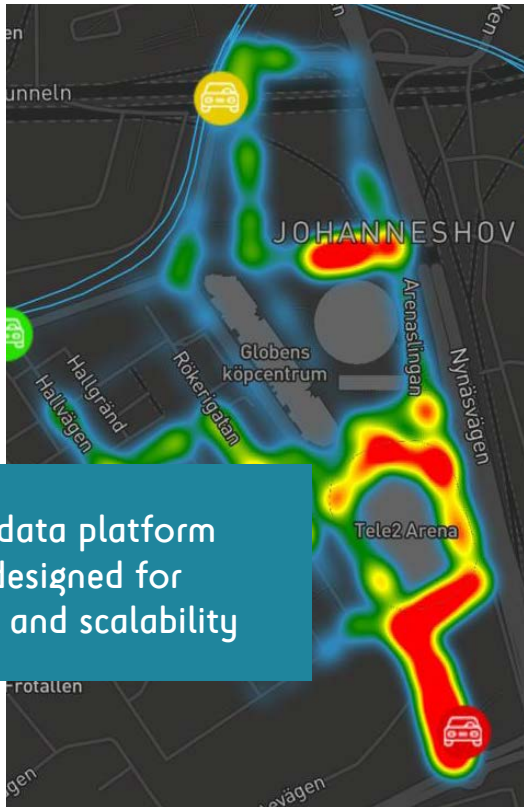
The Stockholm City Data Platform analyses the flow and movements of vehicles and people in designated areas. The aim is to improve situational awareness and to use the acquired insights to support better planning, decision- and policy-making within the city, and to communicate up-to-date information to people staying in the area. Better planning and management can lead to an improved experience when staying in the city and to reduced emissions from vehicles.

What did GrowSmarter do?

Growsmarter applied this measure in Slakthusområdet, an area of Stockholm housing several big arenas with an ever-changing flow of people attending different events and activities. Ten vehicle identification sensors were used to track traffic and retrieve emission data to calculate environmental impact. 30 Wi-Fi and camera-based sensors deployed in a limited area monitored the movement

of vehicles and people complemented by statistical calculations providing estimates for blind spots not covered by sensors and to determine the probable path between sensors where multiple routes were possible. The sensors measured data 24/7, and the project partner KTH and specialists at the city of Stockholm calculated levels of emissions during the project. These findings can be used to implement different traffic limiting actions and programs that can reduce emissions even further.

Complementary data from various sources such as weather data, event information from the local arenas, local traffic planning functions and live data from SL, Stockholm Public Transport, and Libelium environmental sensors were collected and compiled in the IBM Cloud platform to enrich the analytical capabilities and provide additional insights for the city of Stockholm, making the platform ready for future analytics and AI applications.



An open data platform must be designed for flexibility and scalability

Lessons learnt

It is important to have relevant stakeholders and user groups (event organisers, visitors, commuters etc.) involved at an early stage to identify requirements and expectations in order to provide real value for these groups. Implementation of new sensor systems are time consuming and this aspect should not be underestimated. The positioning of the cameras/ sensors for vehicles is crucial to obtain useful data and the responsibility for maintenance must be clearly defined. The data gathered during this implementation is central in order to establish a modern and useful urban planning and can be repurposed for many other applications and future development.

Upscaling & replication potential

All technologies used in this project are proven and widely available. The cloud platform and data ingestion procedures can be used regardless of location. Sensors already installed can be reused to provide data. If no sensor data is available, sensors must be installed to replicate the solution. Big Data sources and connected devices are getting more common. This project has successfully demonstrated a real example of how these technologies can be combined to support new innovative opportunities.

How did the measure work?

Technical feasibility

The measure has proved technically feasible to implement and to use as intended. The main challenges have been setup and configuration of sensors and initial quality issues with data.

Economic feasibility

The implementation of a Big Data platform often imposes a high start-up cost for the first use case. Adding additional use cases or scaling the application usage can dramatically lower the cost per unit or use case.

Replication potential

The measure is ready for use and can be replicated as-is. The number of data sources are expanding rapidly which opens up for new and innovative use cases. To accommodate the growth, in data volumes and applications, and to realize even more value over time, it is extremely important use an open data platform that is designed for flexibility and scalability.

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