my SMART Life

Stromnetz Hamburg

A European urban transition project towards more sustainable cities through innovative solutions, in the fields of mobility, energy and digitality.

Smart City

Global Project

Coordination: CARTIF
European grant: 18M €
30 partners, 6 countries
Period: Dec.2016 - Nov.2021
Demonstrators: Nantes, Hamburg, Helsinki

@mysmartlife_EU
https://mysmartlife.eu/

Hamburg

Coordination: Borough of Hamburg-Bergedorf
European grant: 5,25M €
14 partners

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Mobility

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Parking Space Detection

This action was implemented by Free and Hanseatic City of Hamburg in collaboration with Stromnetz Hamburg GmbH.
A full report (D 3.9), written in English, November 2019, is available on https://mysmartlife.eu/publications-media/public-deliverables/

► OBJECTIVES

› This activity addresses the problem of incorrect parking spaces' allocation at charging stations by conception and implementation of availability, recording to improve the availability of the information and access of charging locations

► IMPLEMENTATION

CHALLENGE

Hamburg has been expanding the public charging infrastructure for several years. Both in terms of the number of battery-powered electric vehicles (EV) and the density of the charging infrastructure in public areas, Hamburg is among the pioneers in Germany. A frequently presented challenge in the field of electromobility is the lack of sufficient publicly accessible charging stations for EVs. Often parking spaces at charging stations are blocked by other drivers, precluding arriving EVs from charging. In order to solve this problem, the number of incorrectly occupied parking spaces at charging stations must be reduced. Within the project mySMARTLife, a focus is laid on the development of a technical concept for the detection of the availability of charging points. The Stromnetz Hamburg GmbH (SNH) is facing the problem of misallocation of parking spaces at the charging points in Hamburg by using ground sensors. The developed system can reliably allocate available parking spaces at more than 1,000 publicly accessible charging points in Hamburg in real-time and provide users with this information.

PROGRESS

At present, charging point assignments are only detected by their use. With the floor sensor, an AND/OR query in the APP charging station can be used to indicate whether a charging station is occupied or not.

In order to find a suitable parking space monitoring system, five planning and implementation steps were carried out. The objective is the technical design and specification of technology for the sensors, recording of the occupancy and for the recording, processing and utilization of the data. During the implementation of this project, it became apparent which potentials lie in a wireless network to be created.

LESSONS LEARNT

Stromnetz Hamburg wants to contribute to strengthening the confidence of EV drivers in the efficiency of the charging infrastructure and to systematically combat the so-called "fear of range" which unfortunately still exists. Charging point search traffic will be actively reduced and often even completely prevented.

However, the technology will not only be used for reading parking sensors at charging points but also will offer further innovative future fields of action. These go far beyond the application of electromobility: by means of the employed LoRaWAN transmission technology, further sensors can be integrated into the network and in this way, further synergy effects can be systematically leveraged. The technology offers the widest variety of use cases and the possibility to combine data transfer to an economic attractive price. Exactly these potentials strengthen Hamburg's path as an innovative "Lighthouse City" in Europe and indicate possibilities of an innovative "Urban Transformation Strategy" to support the follower cities in developing their own approach for a Smart City.