



CITY DATA CLOUD

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Open Data: The Key to the City of Tomorrow

Information is the raw material of the 21st century. In tomorrow's cities, public data and information will therefore play a key role. In order to use information effectively, a central platform available under open license is needed, which will lead to additional benefits for citizens, governmental offices and businesses, such as the active participation of the citizen and the opportunity for users to develop their own applications. The modern city is increasingly playing the role of a service provider. As a result, more and more cities around the world are making their data available to third parties to be accessed and processed. These open datasets include commercial, public and context-sensitive data regarding municipal infrastructures and resources as well as collected information personal or safety-related data will not be published. According to the EU guideline "Re-use of public sector information", it is essential to make public data available in order to promote innovative and future internet-based services, new business solutions, transparency and participation in urban areas.

Central Open Data Platform: Benefits for Citizens and Administration

A central municipal data platform offers trustworthy access to public data and allows it to be efficiently called up, analysed and used in services and applications. The city data cloud, designed by Fraunhofer FOKUS, provides a pool of dispersed, highly scalable IT infrastructures for the governmental institutions and businesses of a city in order to make public data accessible. Municipal value-added services like traffic management, energy supply or public services are provided with continuously updated information via the city data cloud.

Making public and commercial data available: e.g. population figures, open street map data or district geometries



The functions and the structure of the data platform must be defined technically and organizationally. The technical infrastructure is responsible for the integration and availability of the heterogeneous and dispersed data sources. An organizational framework controls the procedural, legal and economic aspects of their availability, processing, transfer and ultimately the use of the data by the actors involved.

The Berlin Open Data Portal

Fraunhofer FOKUS has played a decisive role in the conception, implementation and operation of the Berlin Open Data Portal daten.berlin.de. This is the first data portal of its kind in Germany. The starting point for the practical realization of this effort included several elements: a preliminary study by Fraunhofer FOKUS assessing the state of urban data in Berlin, a survey of citizens about the desired data sets and the resulting recommendations for action as well as the Berlin Open Data Agenda. The Berlin Open Data Portal was then developed in cooperation with the Berlin Senate Administration for Economics, Technology and Women as well as the Office for Statistics of Berlin-Brandenburg and the city portal BerlinOnline.

A multi-layer architecture was used in order to guarantee an optimal user experience as well as technical sustainability and interoperability. The very heart of the portal is formed by the infrastructure layer that allows the data relevant to the city to be accessed and processed. The software CKAN (Comprehensive Knowledge Archive Network) collects and manages the actual data records. The metadata schema was developed by FOKUS and is based on the data exchange format JSON (JavaScript Object Notation). The user interface forms a Drupal content management system.

Open Data Portals – Today Berlin, Tomorrow Europe

Open data makes the decisions in the city of tomorrow more transparent and simplifies work routines for administration, citizens and companies in everyday life. Using a machine-readable format and under a free license, any form of use is permitted – including commercial use. Open data portals not only grant access to administrative data but also allow them to be processed for internet based applications and mobile apps. In cooperation with the partners of the Berlin Open Data Portal, Fraunhofer FOKUS is currently working on the development of additional selected open databases and the provision of the necessary tools for their use and processing. In line with the European Open Cities project, Fraunhofer FOKUS is working on a data platform for European major cities – including Barcelona and Paris.

Requirements for Open Data Portals

- Central access platform
- Machine-readable records
- Legally admissible use and transfer of data through open licensing
- Uniform, device-independent data access
- Up-to-date and high quality records
- Data security

Advantages of a Central Platform

- Simplified analysis, aggregation and integration of the data
- Higher transparency
- Direct feedback channel for citizens
- New business solutions
- Innovative applications

