GrowSmarter
Transforming cities for a smart, sustainable Europe

FACTSHEET

Urban ENVIRONMENT

PART OF SMART SOLUTION 8: BIG DATA MANAGEMENT

accreditation: Valdas Miskinis, Pixabay

INTEGRATED
INFRASTRUCTURES

- Provides a fast and easy overview of current environmental conditions in your city
- Real time and historical data can be used to generate value added Data like predictions and recommendations for traffic management systems
- Environment data can be combined with other urban data to develop smart solutions like environment sensitive traffic management to optimize air and traffic quality

Cologne

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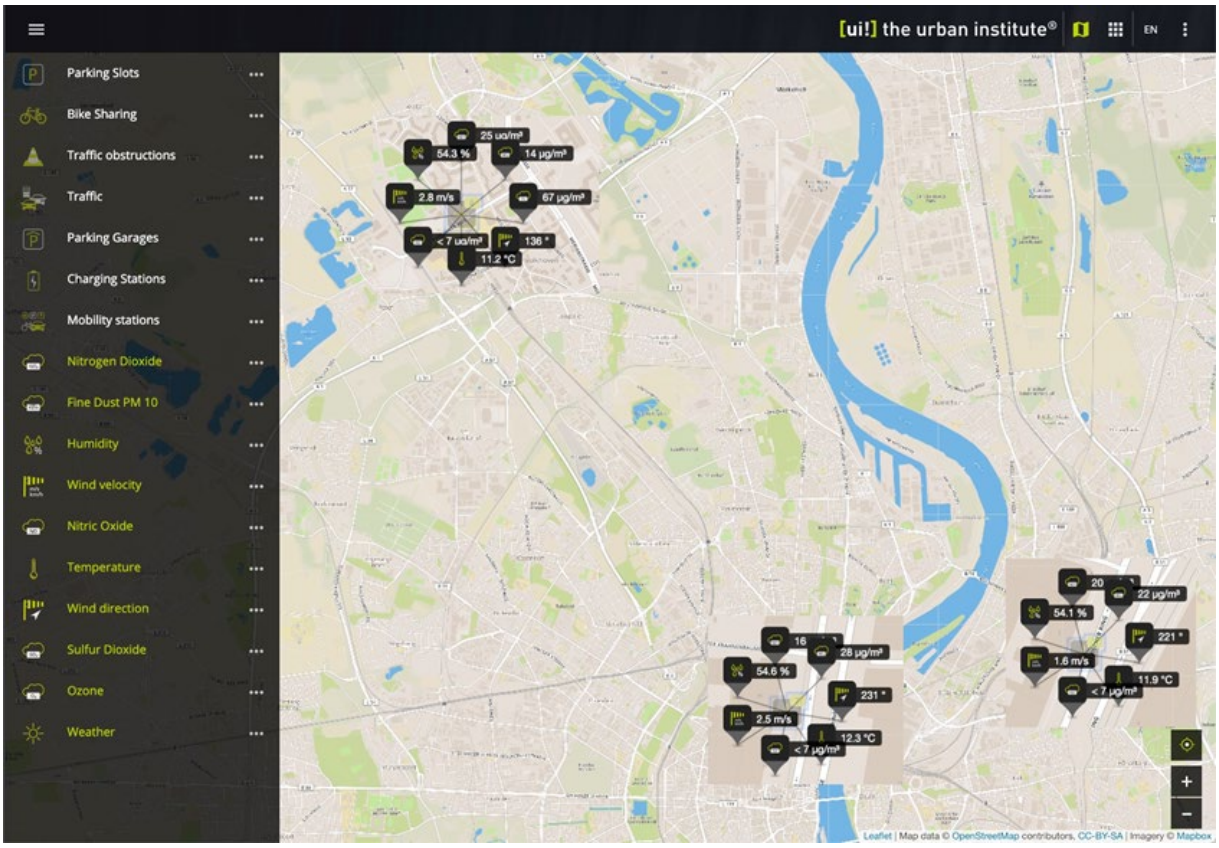
What is the solution?

The picture shows the Urban ENVIRONMENT app of the City of Cologne. The sensors measure data including CO2, ambient light, air pressure, humidity, temperature, dust and noise level. This is a street map of Cologne, which draws information from sensor packages installed and maintained by the federal state North Rhine-Westphalia. Further sensor packages could be ordered by cities itself, e.g. from [ui!] – The Urban Software Institute, and installed e.g. at lampposts or traffic lights. The app merges the data from them when the user zooms out. When zooming in, all sensors are shown individually and every sensor of every package can be viewed.

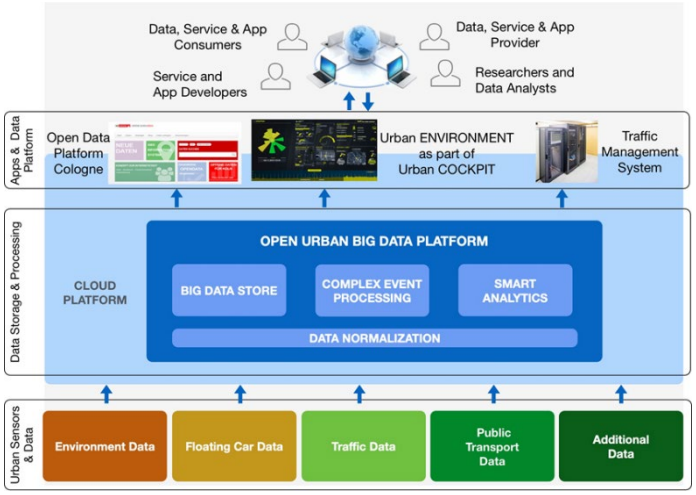


How does it work?

Urban ENVIRONMENT is part of the Urban COCKPIT, which is explained in detail in another factsheet.

The Open Urban Big Data Platform (OUP) module in the middle, called UrbanPULSE, is normalizing, storing and processing environment and other urban data in real time and applies different modules and services to generate value added data like KPIs, predictions or recommendations. The platform is compliant to the DIN SPEC 91357 “Reference Architecture Model Open Urban Platform” to avoid vendor lock

ins. Smart Analytics Services can also be 3th party services. The platform is open in terms of using open data and protocol standards.



Business Model Used

The Urban Software Institute GmbH (=[ui!]) is developing the UrbanPulse platform and Urban ENVIRONMENT and offers them to cities and urban management companies. Further more [ui!] offers services for data integration, analytics, development use cases, designing and implementing the COCKPIT and more. Customers, who want to do the development by their own, can buy a developer licence including access to the full source code of the platform. Purchasing a reseller licence is another option. Value added real time data like traffic situation or traffic light switch predications are offered to cities as well. Real time traffic control predictions can be used e.g. to environment sensitive traffic management.

The business models can be adapted to every individual city needs and requirements.

Integration with other Smart Solutions

The Urban ENVIRONMENT app is part of the Urban COCKPIT, which is described in another fact sheet, and which is not limited on environmental solutions.

Expected Impact

The Urban ENVIRONMENT app delivers important information about the current environmental situation of a city. Developments of different environmental measures can be monitored to detect the impact of measures and to improve selective certain aspects. The displayed information can also be provided as Data as a Service on the open data platform of Cologne. The service and app developer are able to develop new ideas of how to exploit these information for new value added information and data for users.

Potential for replication

The solution can be replicated in any European cities easily as it not dependents on proprietary standards and is not limited to certain urban data domains. As cloud solution it can be scaled and adapted to the city needs. Small cities can be supported as good as very big cities.