

## Digital Single Market

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# CitySDK: Helping cities open their data and giving developers the tools they need

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With governments around the world looking at open data as a kick start for their economies, CitySDK provides ways for the cities throughout the Europe to release their data in a format that is easy for developers to re-use.



[1]

With governments around the world looking at [open data](#) [2] to kickstart their economies, [CitySDK](#) [3] gathers best practices so as to develop a Service Development Toolkit (SDK) that can be used by any city looking to create a sustainable ecosystem of “city apps”, supporting digital services.

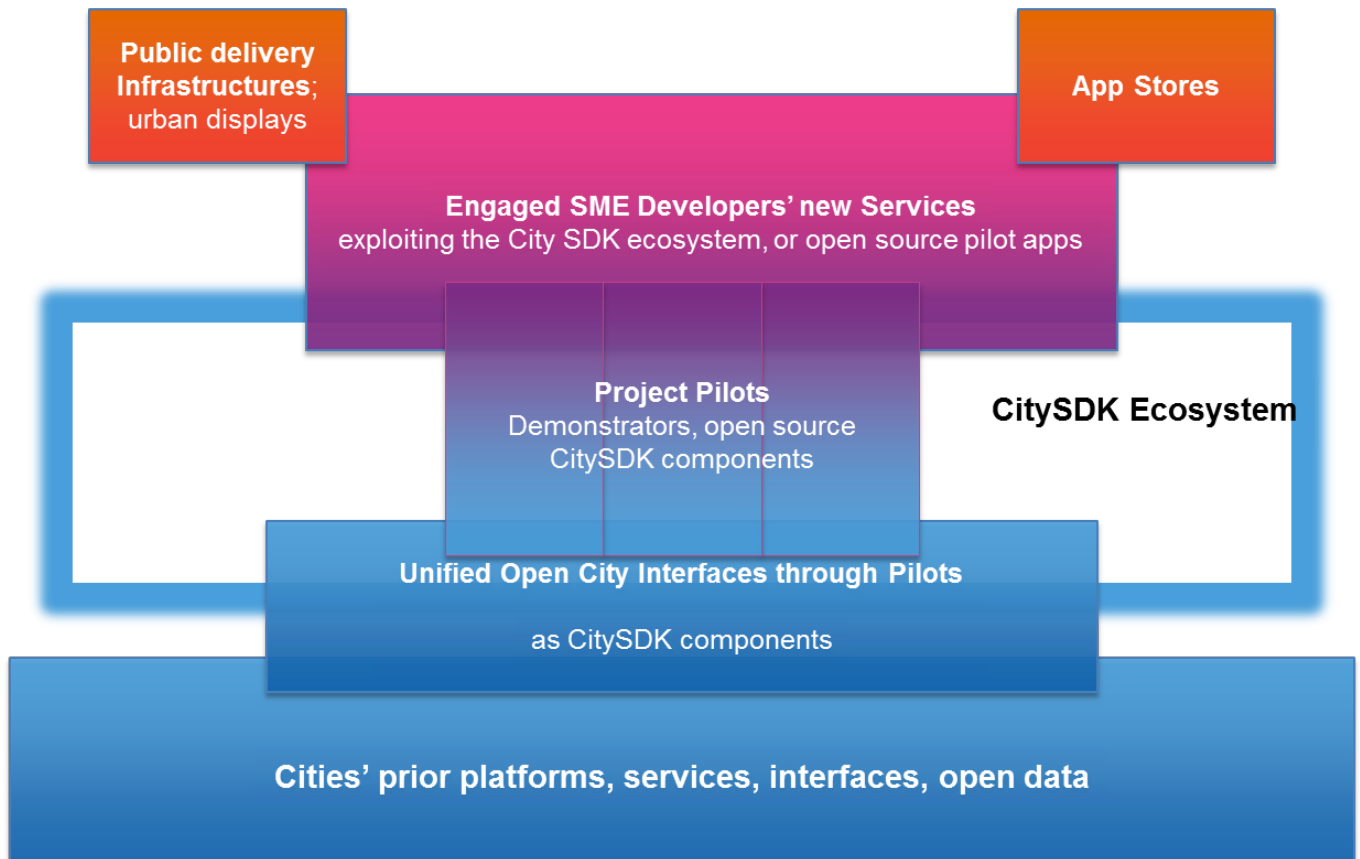
The toolkit includes open and interoperable digital service interfaces as well as processes, guidelines and usability standards. CitySDK enables a more efficient utilization of the expertise and know-how of developer communities in the city service development.

## A Service Development Kit for Connected Smart Cities

The collection of tools and knowledge provided by the project will allow easy and rapid user-driven development of transferable and interoperable high-quality Smart City Applications for the SME developers, hacktivists and public ICT developers. It includes all relevant software toolsets, interface

definitions, example applications, widget libraries, city-specific 'translators', and other related software and technical documentation. Strong emphasis is given on a creation of a framework that is scalable, future-proof and easily harmonizes access to regional open data as well as closed data sources and ICT systems.

The project focuses on three Pilot domains: **participation**, **mobility** and **tourism**. Within each of the three domains, a large-scale Lead Pilot is carried out in one city. The experiences of the Lead pilot are then replicated in further pilots in other partner cities.



## Smart Participation



[4]


The purpose of the pilot is to create an open interface that acts as an issue-reporting channel between the citizens and the civil servants. The pilot is based on the [Open311](#) [5] technology, which is

a standardized protocol for location-based collaborative issue tracking.

Forum Virium Helsinki, together with Helsinki's Public Works Department and Sanoma Media Company (Publisher of the Metro Newspaper), has implemented the Smart Participation Lead pilot in Helsinki.

The City of Helsinki has published its issue reporting API and is now the second in Europe enabling issue reporting API for external services, such as mobile and internet apps, and web-services. First service to connect to the feedback system of the City of Helsinki is the Metro [website](#) [6] with a FixMyStreet-like application. Since summer 2013, the Smart Participation concept expanded to Amsterdam, Barcelona, Lamia, Lisbon, Manchester and Rome. These partner cities will enable the two-way issue-reporting channel for their citizens and an opportunity to develop the interface according to their special needs.

## Smart Mobility



**OpenData Globe**

- ▶ Live public transport
- ▶ Realtime traffic flow
- ▶ Public transport (static)
- ▶ Census data
- ▶ Settings
- ▼ About CitySDK

The dynamics of European cities are made visible in the Open Data Globe, based on available (live) mobility data. The data comes from the CitySDK API, a platform that allows for easy and uniform distribution of European open data. New datasets are (semi) automatically added to the visualization, all data are available for developers and cities can easily make their data available. Do you want to develop an application using Open Data? Check out the developers page <http://dev.citysdk.waag.org>. Do you want to know more about the project CitySDK? Visit the project page <http://www.citysdk.eu>.

Open Data (and Big Data) are hot: citizens and (government) agencies create and collect a lot of data: data that may be very valuable for social change and innovation. However, much of this information is not, or only partially available and released data comes in many forms, making it difficult to combine and reuse. The CitySDK API standardizes the data at the European level and makes the information searchable and available on demand. In this way, developers and researchers have easy access to the information.

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[7]The Smart Mobility domain piloted in Amsterdam aims to create services based on real-time traffic data combined from multiple sources. The services can be used e.g. to find the best transport options, or to avoid the worst traffic jams in a Social Travel App.

A few demo [applications](#) [8] have been developed using the Smart Mobility API such as the [map viewer](#) [9] allowing to explore CitySDK data and [Now](#) [10], which shows departure times at nearby public transport stops. This web app works in Amsterdam, Helsinki, Manchester, Tampere (Fi).

During summer and early fall, the Mobility API has been installed to other CitySDK partner cities, including the City of Istanbul where the API was installed in August 2013. This brings the CitySDK API to the reach of an impressive megacity with more than 13 million inhabitants.

The Smart Mobility API has also been utilised to support an athletic event in the City of Lamia (Greece), for which an [app](#) [11] is using CitySDK Mobility's open data combined with crowdsourcing design. The app gives directions of how to get info about the run activities, like course, use of

transportation, trip planner, etc.

## Smart Tourism

The Smart Tourism Lead pilot focuses on creating location-based mobile services for tourists. The ultimate goal is to create a European-wide market for tourism application, based on Open Data made available by public or private entities. Implemented in Lisbon, the services guide tourists to experience the city in a new way, suggesting interesting attractions, thematic walks, or other nearby services.

The main output of the Tourism pilot is the final API to access Points of Interest (POI), Itineraries and Events information that, once deployed, will allow effortless transfer of applications among cities using CitySDK.

The Lead Pilot API for Lisbon was published in early 2013 and several client [apps](#) [12] for different use cases and different languages were produced to validate the API (check out the example apps here). Early applications include Personal Travel Guide, augmented reality POI finder, event calendar web widget and Event/POI map web widget.

In Lisbon, CitySDK has built up on existing open data initiatives, such as the Open Data Lx, which gives access nowadays to more than 300 POIs with relevant interest for tourism applications.

Within the Tourism API there's been interesting developments also in other cities, such as [Amsterdam](#) [13].

## Outcomes



The primary goal of CitySDK is a toolkit for developing digital city services by opening up and harmonising city interfaces, processes and standards.

The Project's most impactful outcome is the creation of the pan-European, SME-driven Smart City Applications ecosystem. Here the eight partner cities act jointly to enable technological and business platform, where the SMEs, citizens, large companies and other organizations create added value.

The open interfaces used in every pilot of CitySDK pilot are shared with the developers and are available on the CitySDK [Developer's site](#) [15].

The replication of the pilots to other partner cities illustrates that [open data](#) [2], [open standards](#) [16], interoperability are the successful ingredients to enable this generation of new urban services fitted for different scales up to very large cities such as Istanbul.

Finally, the CitySDK coordinator Forum Virium Helsinki has been the key partner of the six largest Finnish cities in developing the [Open and Agile Cities strategy](#) [17], utilising the knowledge base built in European Smart City projects, such as CitySDK but also Commons4EU and Open Cities. The strategy is funded by European Regional Development Fund (ERDF) and European Social Fund (ESF),

the Finnish Government and the participating cities.

## Useful Links

- [CitySDK project](#) [3]
- [Open311](#) [5]
- [Code for Europe](#) [18]
- [SixPack Strategy](#) [17]

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### Links

- [1] <https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Picture1.png>
- [2] <https://ec.europa.eu/digital-single-market/en/open-data-0>
- [3] <http://www.citysdk.eu/>
- [4] <https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Metro-fiksaus-v2-05.png>
- [5] <http://open311.org/>
- [6] <http://metro.fi/fiksaus/>
- [7] <http://dev.citysdk.waag.org/visualisation/>
- [8] <http://dev.citysdk.waag.org/apps>
- [9] <http://dev.citysdk.waag.org/map>
- [10] <http://dev.citysdk.waag.org/now>
- [11] <https://play.google.com/store/apps/details?id=com.smarts.nightrun&hl=en>
- [12] <http://citysdk.ist.utl.pt/applications.html>
- [13] <http://www.citysdk.eu/2013/05/23/amsterdam-tourism-pilot>
- [14] <https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Picture3.png>
- [15] <http://www.citysdk.eu/developers/>
- [16] <https://ec.europa.eu/digital-single-market/node/67016>
- [17] <http://www.forumvirium.fi/en/sixpackstrategy>
- [18] <http://codeforeurope.net/>