



# Smart City Platform

A PwC Product

**Digital data platform for  
systematic analyses and  
intelligent citizen services**

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# Your challenge



More than ever, cities, municipalities and countries have to adapt to today's influences and trends. **Urban growth, climate change and digitalization are just some of many challenges they have to face.** In order to enable a functioning coexistence in the future, they must find intelligent solutions and continue to develop.

So far, the challenge of implementing a smart city transformation seems to be high. Often **substantial investment costs as well as hardware installation efforts** make people hesitant about smart city solutions. In addition, there is a **lack of a technologically data-driven basis.** Although there are already numerous data sources such as sensors in the city. Too often, however, there is still a **lack of well-founded and networked analysis and utilization concepts.** In order to maintain a **holistic cityscape** and to **improve the quality of life sustainably and efficiently**, the focus must be on the citizens in particular, in addition to existing data sources. This is the only way to identify the needs and requirements of the population for the city, the movement behaviour in the infrastructure, and changes.





# Our solution: Smart City Platform

**The Smart City Platform is a platform solution focused on the needs of cities, municipalities and countries.**

In the environment of infrastructure, mobility and public safety, it offers the possibility to integrate and analyze all information and data of the local environment and to offer intelligent services to the population via new communication channels.

### **High data protection according to GDPR**

Data from end users is never collected without consent.

### **IoT sensor integration**

External data sources such as IoT sensors can be easily integrated at any time.

### **Out-of-the-box functions**

Our features work without the need of complex hardware installations.

# Technical features

- **People flow analysis**

People flows are visualised in terms of density, direction of movement and speed in real time on the interactive map. The platform's artificial intelligence detects anomalies and risks so that you can react accordingly.

- **Usage analysis**

The interactive map provides you with real-time information on the intensity of use of stations, routes and route sections. The data is visualised and can be exported for analysis purposes.

- **Mobility analysis**

An integrated map allows individual zones to be selected and the various modalities and respective distributions to be displayed graphically.

- **Origin-destination analysis**

The transfer behaviour in public transport can be visualised for traffic hubs and routes. This allows you to identify and exploit trends in the mobility behaviour of the population in time.

- **IoT sensors**

External sensors of any kind can be integrated into the platform. These additional data sources serve you to collect further relevant information and use this for analyses.

- **Artificial intelligence**

The Smart City Platform's artificial intelligence analyses incoming data streams and detects anomalies and trends.

- **Long-term analyses**

The platform's web application enables efficient and intuitive data processing with a customized dashboard.

# Technical features

- **Carbon footprint**

The Smart City Platform can calculate the CO2 footprint of individual zones in relation to mobility movements. This makes it possible, for example, to identify and evaluate the success of ecological measures over time.

- **Intelligent messaging**

Messages can be individualized and sent to citizens in defined zones based on their location. Potential smart notifications include perimeter incident alerts, reminders of upcoming appointments and city events, and targeted location-based surveys.

- **Sending geo-information**

In the integrated map, you can visualize any kind of geographical locations such as points of interest, routes and zones. In addition, you can inform app users about locations of current and upcoming events, such as weekly and annual markets or cultural events.

- **Asset tracking**

The locations and movement data of your mobile assets (employees, task forces and vehicles) are automatically stored and can be accessed in real time.

- **Asset messaging and reporting**

Using our free Command and Communicate App, your assets and responders can report any information and incidents to your control centre quickly and easily. Likewise, the control centre can send messages and instructions to selected assets.

- **Logbook**

The logbook automatically documents and chronologically stores all processes that are recorded by the platform in order to be able to trace back processes in retrospect.

# Use case

## Sending intelligent and location-based messages to the population

1



Inform your population about upcoming maintenance work in their residential area and the period of possible disruption.

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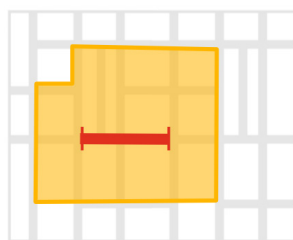
2



Implement your urban arts and culture guide via app and inform your users in defined zones about near events.

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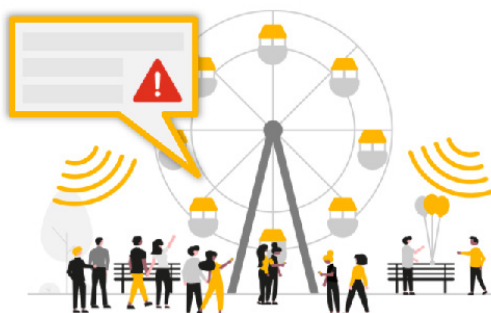
3



Notify the residents of a neighborhood of a short-term road closure in your area.

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4



Warn visitors to city events such as the Christmas market and in high-traffic areas about pick-pocketing.

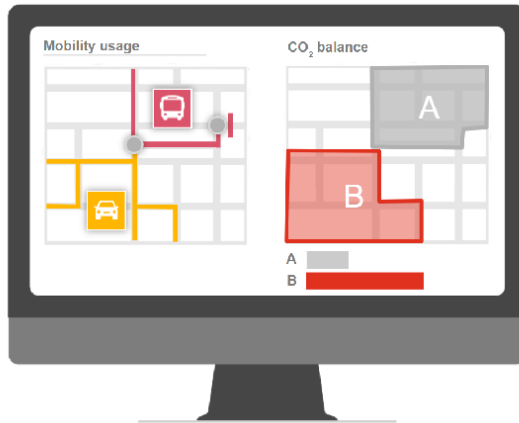
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# Use case

## React more quickly to negative developments and problem situations

1



### Usage analysis and carbon footprint:

An analysis of the inner-city mobility infrastructure shows that many passengers of a bus line get off at a certain stop and continue their journeys by car. Accordingly, the CO<sub>2</sub> balance in this zone is poor.

2



The planning team recognises **optimisation potential** here and would like to sustainably expand the mobility offer in this region with offers from partner companies, such as new electric bus routes and shared mobility offers.

3



### Long-term analyses:

Already a short time after the introduction of the new mobility offers, first successes are noted with regard to mobility use as well as the CO<sub>2</sub> values of the urban area. Significantly fewer cars are recorded on the streets and better air quality values are measured.



# Use case

## Connecting sensors and using them as additional data source

1



People-counting sensors at the entrances to event zones transmit current visitor numbers and report limit exceedance.

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2



Traffic monitoring cameras provide you with up-to-date information on the flow of traffic at all times and allow you to react quickly and order detour in the event of congestion.

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3



Sensors that measure the water levels nearby can be connected to the platform. Based on weather data, the artificial intelligence can create forecasts of water levels and send automated warnings in case of danger.

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4



Environmental sensors that measure noise and CO2 emissions of vehicles on busy roads forward their collected data directly to the platform for analysis.

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## Answers to the most frequently asked questions

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### How to define a smart city and what are its characteristics?

The smart city concept describes ideas and concepts for urban areas that aim to make cities more efficient, climate-friendly and livable through the use of modern technology. This is achieved primarily through highly integrated and networked information and communication technologies. The goal is to have the right resource available at the right time in the right place. This primarily concerns:

- Mobility and infrastructure
- Food and consumer products
- Energy and water supply
- Communication and administration

### How does a smart city work?

A smart city is more efficient, sustainable and advanced in comparison to conventional cities. Its approach is to tackle problems arising from demographic change, population growth, environmental pollution, climate change and the increasing scarcity of resources with innovative concepts and technologies. In addition, the close interaction of all the players involved is intended to create synergies that help solve new problems and keep the city evolving.

### What are smart city examples and which smart cities already exist?

London, Helsinki, Barcelona, Copenhagen and Hamburg are among the leading smart cities in Europe. To save energy, Hamburg has introduced smart street lighting that uses sensors to detect when a road is used by a traffic participant. In addition, many bridges are now fully automated, allowing shipping traffic to flow unhindered.



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# Unlock the value of your city data – we explain how!



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