

The ALMANAC project is developing a Smart City Platform which creates synergies between existing resources and services in the city for a more efficient and sustainable urban living.

The platform follows an integrated approach, enabling real-time data connection, management and sharing in a complex urban ecosystem with multiple and heterogeneous devices, systems and services.

Traditional segmentation of stakeholders is overcome by prioritising federations between public and private actors and by engaging citizens in the development of services. On top of this, open API's are available to anyone, wanting to develop Smart City applications.

The Smart City Platform is tested and evaluated in the City of Torino, providing solutions for waste and water management and for citizen engagement.

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## Project Consortium

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## Creating a Smart City infrastructure

The ALMANAC Smart City Platform provides all the technical components necessary to develop and implement Smart City solutions.

The key element of the platform is a **middleware** which enables heterogeneous resources, devices and services to cooperate at the semantic level, thus bridging new technologies with existing systems. The middleware also manages privacy policies and network aspects.

To reach every corner of the city, the platform includes a **dedicated capillary communication network**, linking sensors and actuators to the platform. As a first mover, ALMANAC integrates the ETSI M2M standard release 2.

Federations between different public and private providers, through an **open federated IoT Storage Cloud**, are explicitly tackled as core features. Based on service exchange agreements, covering legal and political issues, data and services can be offered and shared across different domains and cities.

The ALMANAC platform is tested in the City of Torino, covering three application areas: Waste management, water management and citizen engagement.

## Dynamic waste collection

*The wish is to optimise the daily collection of waste based on real-time data from bin sensors and citizens.*



By using the ALMANAC SmartWaste application, the waste management company can monitor bins and their fill levels and generate routes based on the actual situation.

Citizens can report litter problems using their smartphones, which then link the issue to an existing waste collection route.

## Efficient water management

*Sustainable water management is an important issue which is promoted through awareness and savings.*

With the ALMANAC SmartWater application, water consumption data are automatically collected from smart meters and shown to consumers.

Consumers can follow their water consumption live on their smartphones, becoming aware of their water usage and behaviour.

ALMANAC also detects water leaks, helping the consumer to prevent water damage and subsequent high bills. Another advantage is that simple, inexpensive smart meters can be used since no built-in leakage detection is needed.

## Citizens at the centre of the development

*Utilising the collective knowledge and needs of citizens creates the best solutions. In ALMANAC, citizens have been involved in developing three applications.*

The ALMANAC recycling support app helps the city increase the quality of recycled waste. It gives you recycling information on a particular packaging, locates the nearest waste bin and provides you with a waste collection calendar with notification services.

The ALMANAC issue report app makes it easy to report issues at building, neighbourhood and city levels without having to find and contact different authorities.

The ALMANAC bike sharing app helps you locate bike sharing stations and check availability, view bike paths and report on bike problems.

