

Waste Management Solution



NEED

Optimising the entire waste management process, limiting collection and disposal costs, is crucial for local authorities and must include every aspect of the supply chain: from the collection service (management of vehicles) to the disposal and recovery of the recyclable part (transfers to plants), pricing (determination of the amount due and collection) up to the search for evasion (“flush out the cheaters”). Finally, it is necessary to produce further added value by optimising the management of the processes so as to overcome the diseconomies of the service and generate positive effects on the territory and by reducing the economic, environmental and social costs which organisations and citizens have to face.

SOLUTION

By using the latest generation technological tools, Municipia's solutions allow optimising the entire cycle of waste collection and management from a smart perspective, starting from on-board technologies (ON BOARD ROUTING & GPS), the use of smart bins – including underground - which record the quantity conferred by each citizen and indicate the most appropriate time for emptying, up to the complete control of costs/services for a complete integrated management of the TARI (Landfill tax). Furthermore, the simultaneous recording of all information regarding the collection and delivery of waste fractions (collection points and plants) is performed with Municipia's tools. The management system allows to accurately establish the landfill tax (TARI) or the tax due share determined in proportion to the quantities bestowed. Finally, it makes available the user information portal & waste management – the landfill tax (TARI) payment record and the App to support the conferment and communication to citizens.

AREAS OF INTERVENTION

- ▶ GPS fleet management
- ▶ Driving styles and fuel measurement
- ▶ Operational Management of Vehicles Routing and automatic accounting
- ▶ Predictive vehicle maintenance
- ▶ Knowledge system and GIS
- ▶ Service planning and programming
- ▶ IoT and bin sensors
- ▶ ERP Management control
- ▶ Disposal measurement technologies
- ▶ System management
- ▶ Road environment measuring equipment etc.
- ▶ Knowledge system and tax evasion recovery
- ▶ Revenue and collection management

ADVANTAGES

- ▶ Process optimisation
- ▶ ARERA (Regulatory Authority for Energy, Networks and the Environment) adjustments
- ▶ Control and reduction of waste collection and tax collection costs
- ▶ Overall service quality improvement
- ▶ Reduction of disposed unsorted waste share per capita
- ▶ Increase in waste materials recovery
- ▶ Reduction of CO2 produced
- ▶ Ordinary and compulsory collection, efficient and attentive to people's needs
- ▶ Reduction of tax evasion and avoidance
- ▶ Construction of forecasting models
- ▶ More satisfied and informed users

OUTSOURCING

- ▶ Analysis of the territorial context and waste flow
- ▶ Monitor and know the quantity and quality of waste handled
- ▶ Monitor the state of the collection service in real time
- ▶ Optimise collection routes
- ▶ Cost saving
- ▶ Possibility of knowing the waste time frames and disposal methods
- ▶ Management of separate ecological collection points
- ▶ Timely separate waste collection
- ▶ Waste collection with combined solutions (door to door and smart bins)
- ▶ Timely emptying of smart bins, when full
- ▶ Analysis of emptying and "personalisation" of the service
- ▶ Possibility of determining the Landfill tax (TARI) in proportion to the waste conferred
- ▶ Possibility of detecting environmental conditions and of monitoring the asphalt state
- ▶ Predictive vehicle maintenance

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a company of the Engineering Group, is the partner for the digital transformation of cities of all sizes.

It provides the best technologies and creates services through private investments, absorbing the operational risk.

MUNICIPIA - AUGMENTED CITY

- ▶ We manage services for Authorities and their citizens, achieving greater levels of efficiency, effectiveness, transparency and sustainability through digital technology. We also intervene with **public-private partnerships and project financing formulas** with investments and risks borne by us and participation in the benefits deriving from the increase in revenues and the decrease in costs.
- ▶ We add value to existing investments and technologies, making available our experience and the technological solutions of the Engineering Group. We intervene both with vertical initiatives and with cross-cutting projects in order to improve the quality of life in the city and to simplify the relationship between Public Administrations and citizens.