

Case Study: Izmit Municipality Solid Waste Collecting Management

How did an innovative municipality use GIS for collecting waste containers quickly and organized?

Customer: The biggest municipality of 48500 hectares field and 332754 population in Kocaeli province

Mission: Tracking of when discharged all the containers in the field. Routing fastest and shortest path for collecting containers by waste trucks. Decreasing number of waste trucks and containers. Fuel efficiency.

Solution: Formalization and tagging of all waste containers by RFID tag. Routing waste trucks according to map zones



General Summary

Among the most important elements of sustainable GIS systems, to maintain the structure, you need to digitize all the features of the containers.

To track all of the containers in the field, tagging and updating has been made while the waste is collecting.



Customer Profile

Izmit Municipality
www.izmit.bel.tr
Service Provider of Izmit region

Objective and Mission

- Collecting wastes on time
- Inventory control
- Instantly tracking waste trucks
- Route optimisation of waste truck
- Truck decreasing and fuel saving
- Seeking unused containers
- Inform the residents
- More efficient waste collecting



48500 Hectares Service Field,
332754 Population

Used Technologies

ContainX: Waste collecting management system software

MySQL: Spatial Database

Mapxtreme: Web Based GIS tool

Xerafy Micro X II: RFID tags

Intermec IF2: RFID tag readers

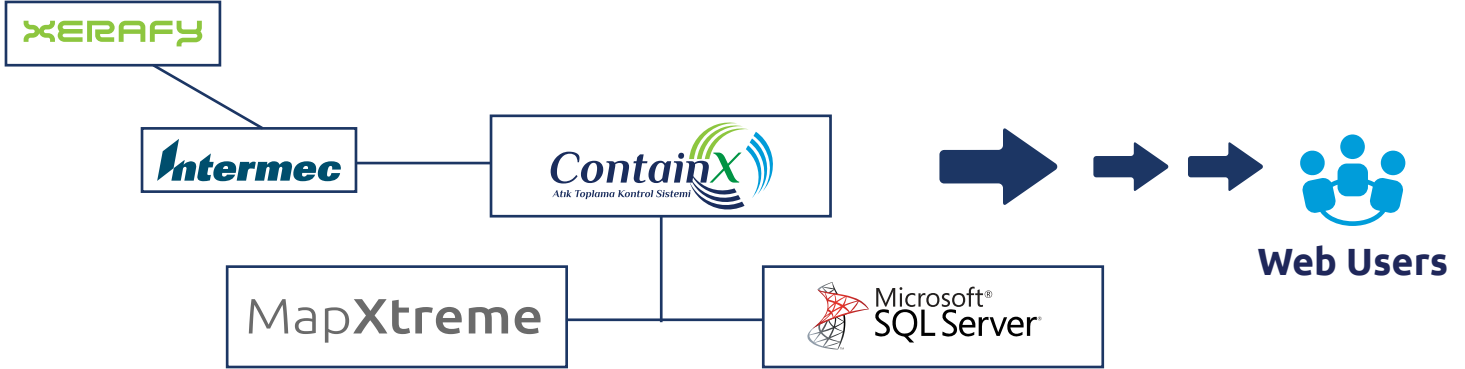
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Mapbis Solutions

From 1997 to present day Mapbis has developed GIS solutions integrated with other systems.

Izmit Municipality field teams tagged all containers one by one. Then RFID tag readers in waste trucks are integrated with ContainX software by GPS and Mobile internet connection. Automatically imported container data to ContainX software by waste trucks used instantly.

Incoming coordinated data from the field are automatically reported through ContainX.



Benefits

- Container history informations
- Waste truck routing
- Creating alarm zones for waste trucks
- Instantly monitoring
- Container substitution graphic
- Unused container calculation
- Fullness and temperature informations for sensor containers
- Instantly notifications for residents



Results and Achievements

All field inventory digitalized. All containers tagged and controlled. All waste trucks can track Instantly. RFID tags are placed in all containers by field team. All container data digitized. Instantly location and fullness information of the containers are reported through RFID readers in waste trucks.

Waste truck numbers has decreased through new routes. Personnel expenses has been reduced to a minimum. Delayed collection of the containers are reported to the center.

System has opened to the public. Where is the waste truck, when it will come, when the trash will be collected is provided to inform the residents. Also the system is designed and developed to be the standard engine with all other waste types with integrated into the map.