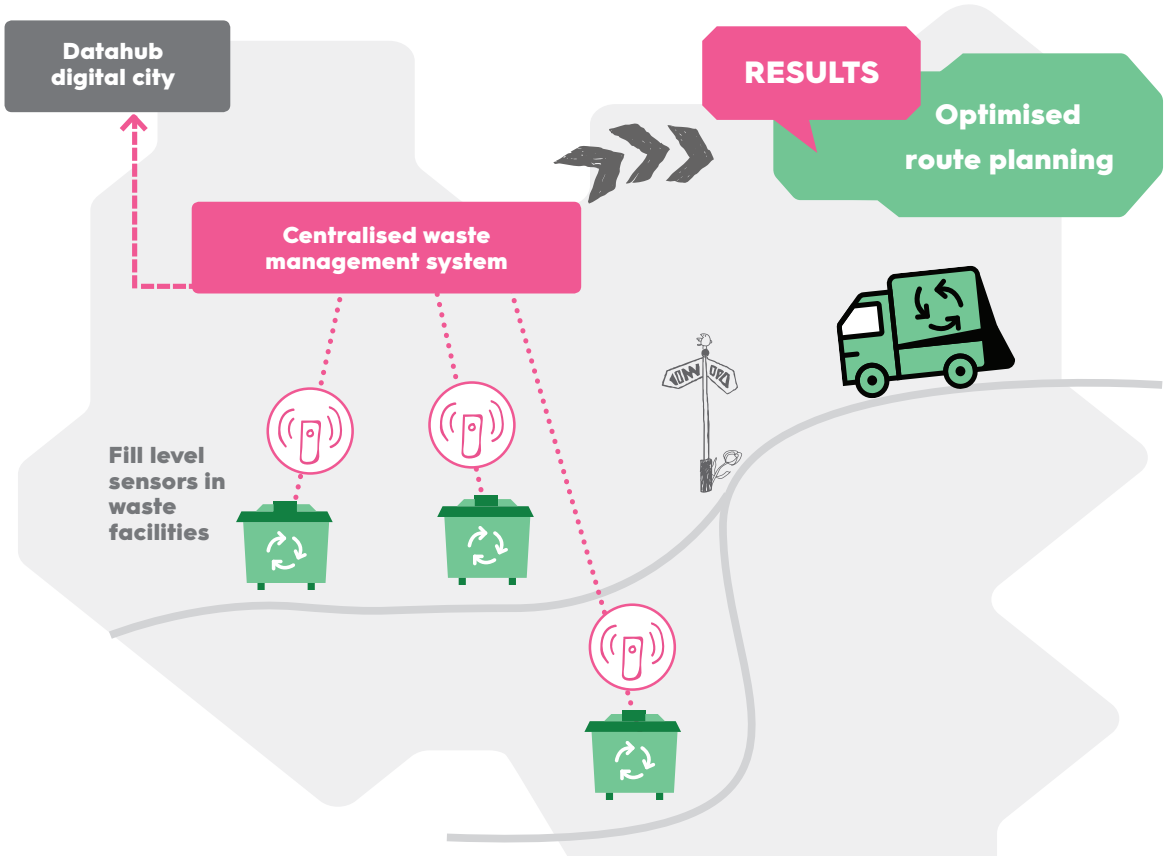
FACTSHEET R13

Smart Waste Management

Rotterdam

Energy management and ICT



This solution's objective is to lower the energy consumption of waste collection vehicles by monitoring their degree of filling and optimising the route of the collection trucks. Similar projects have been done in other cities, but the scale (6,540 containers) and the connection to a 3-D city model makes this solution quite innovative.

Main partners involved:

Eneco

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731198. The sole responsibility for the content of this document lies with the RUGGEDISED project and does not necessarily reflect the opinion of the European Union that is not responsible for any use that may be made of the information it contains.

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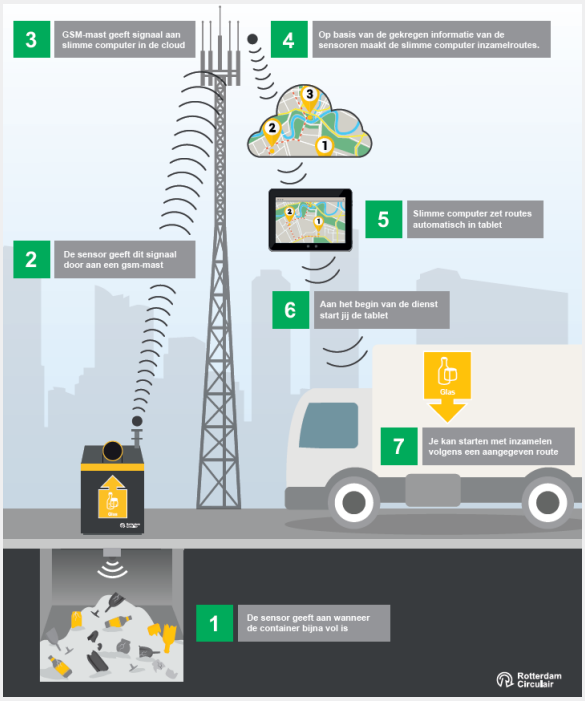
How does it work?

Sensors will be installed at waste facilities to measure the filling percentage and indicate when the container has reached its maximum fill level - or when it has been emptied. Within the next two years, a total of 6,540 sensors will be placed on all waste facilities in Rotterdam.

Data will be communicated through a network to a centralised management system. The results will be a 25% decrease in labour and equipment (costs) and a change from 203 static waste collecting routes into 165 dynamic waste collecting routes. There will be a reduction of 20% in driven kilometres, and 20% in CO2 emissions.

Data will be transferred to the datahub of the 3D city model (R9).



Estimated impacts

In Rotterdam, citywide estimates are that at least 20% less kilometres will be driven while 203 static collecting routes turn into 165 dynamic collecting routes. This lower percentage of kilometers will lead to a CO2 emissions reduction of 20%.

Replication potential

Replication is possible in all cities; the optimisation goes hand in hand with the development of a 3D city operations model.

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