



RECREATE Final Conference

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EBNs (3): ICT based waste management

Ton Bastein, TNO



ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR-
UND MEERESFORSCHUNG



Technical University of Denmark



EBNs help DT RTD

Because they tell the story

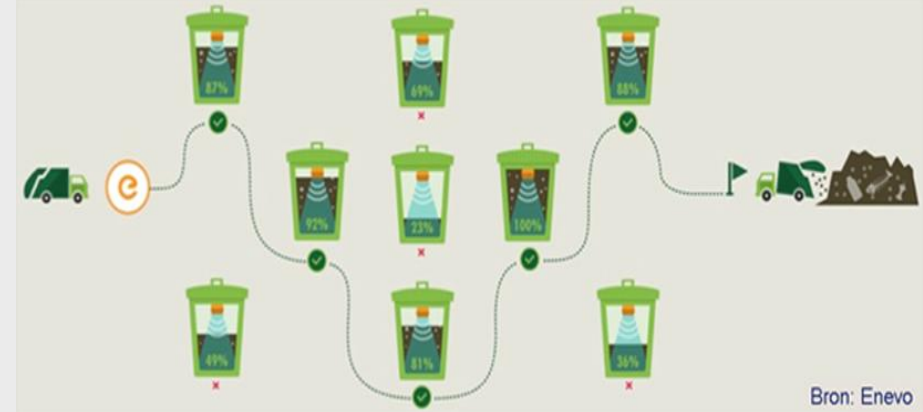
- a. Provide sound data and analyses and evidence
- b. Contact stakeholders and understand their view
- c. Preliminary view on economic performance and environmental benefits
- d. Understand factors of success and obstacles (TIS)
- e. So that micro cases are useful for macro analysis
- f. Challenges can be translated into policy recommendations

Interest for DG RTD in ICT enabled waste management

- Integration of new ICT developments
- Combining fields of expertise
- Circular Economy & waste management in a new era

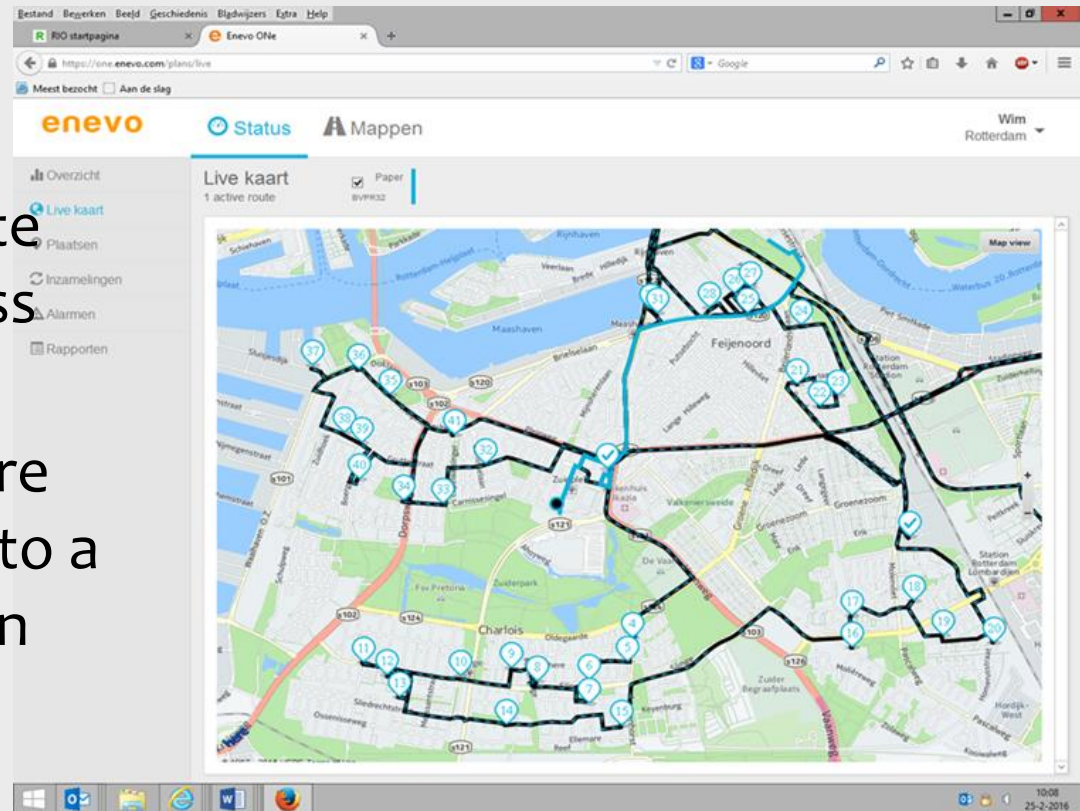
ICT-based waste and resource management: the innovation

- Pilot in Rotterdam for dynamic routing for underground waste bins equipped with filling degree sensors
- With organisational innovation: involving all related personnel
- Positive outcome led to Business model innovation: performance based tender instead of procurement of hardware



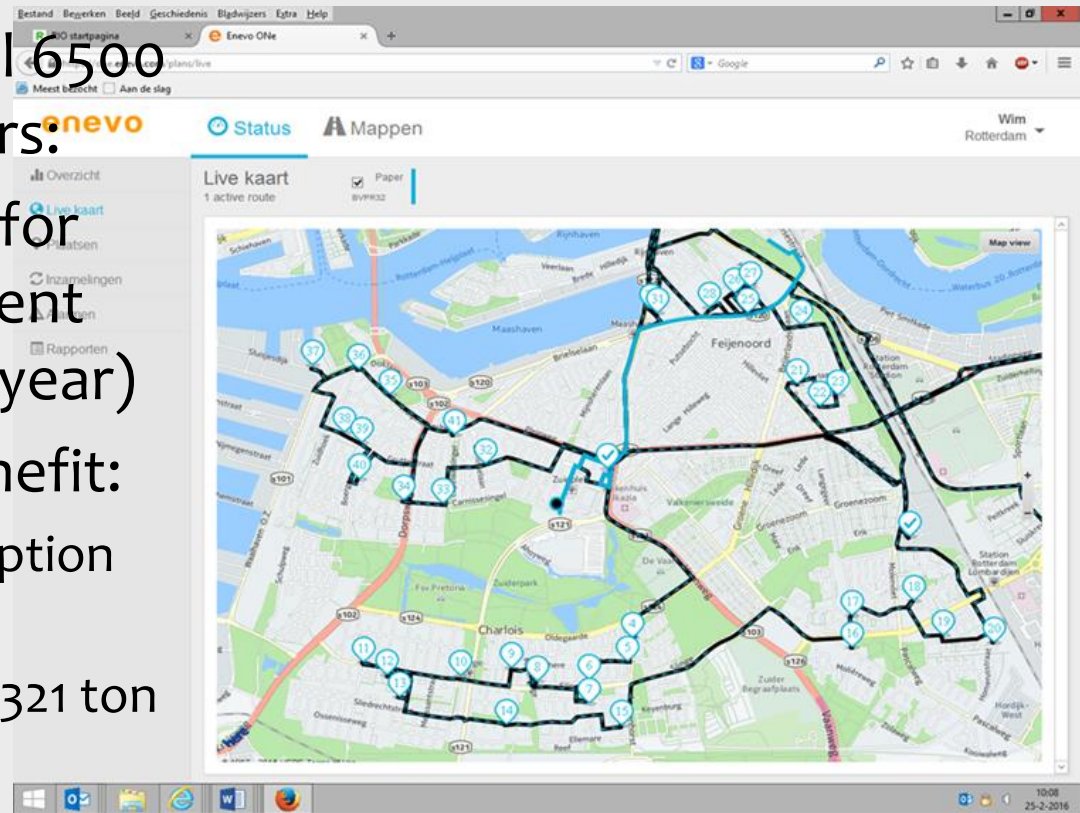
ICT-based waste and resource management: the outcome

- Improved consumer behaviour
- Less blockages of waste containers and thus less overflowing
- Working schedules were made flexible, leading to a more agile organization



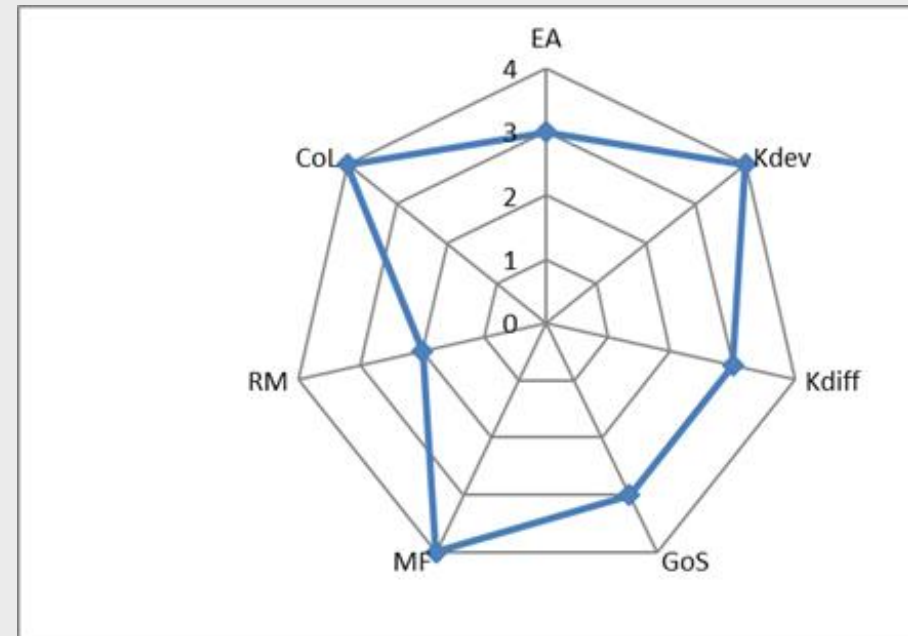
ICT-based waste and resource management: the outcome

- Potential scale-up to all 6500 underground containers:
- 25% reduction of costs for personnel and equipment (=1.37 million euro per year)
- The environmental benefit:
 - avoided diesel consumption (123,500 litre per year)
 - related CO₂ emissions (321 ton per year).



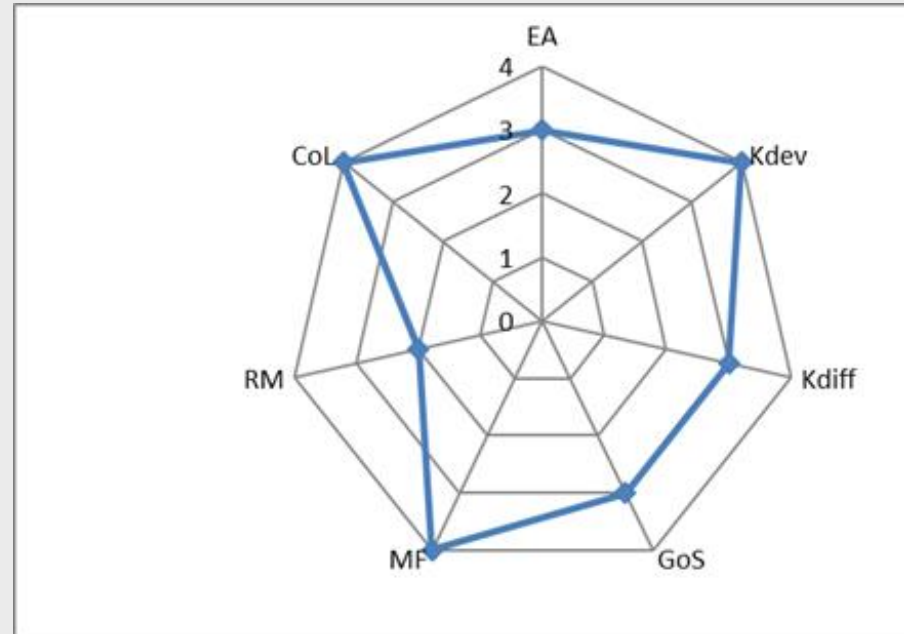
ICT-based waste and resource management: transition status

- Few barriers because of maturity of underlying technology and lack of replacement of existing technology
- Key drivers for innovation are:
 - A sense of innovation and curiosity in the municipality aimed at cost reduction for citizens
 - Positive outcome in terms of cost and environmental impact
 - Maturity of technology



ICT-based waste and resource management: transition status

- Few barriers because of maturity of underlying technology and lack of replacement of existing technology
- Role of municipalities is important here: resource mobilization and entrepreneurship are not their 'core' asset.
- Knowledge diffusion not stimulated by local waste management.



ICT-based waste and resource management: policy recommendations

- Support for fundamental research (e.g. in stand alone sensors) to be supported: businesses will pick up applications when technology is market ripe
- Not only active role for EU policy in setting targets for waste management, but also for actively promoting exchange of best practices, in order to lower thresholds for adoption of new technologies.
- Implications of such new technologies and new best practices on ambitions in CE package of EU may should from time to time be considered.
- The focus of the R&D agenda should be on the impact of disruptive technologies such as ICT and Additive Manufacturing on sustainability and circular economy in general.

Visions from a TIS-professional

- Are you/Is EC looking for the one perfect EBN?
- Or: collection of EBNs should be chosen to outline the state of a broader innovation system.
- Do not focus too much on one individual innovation
- The EBN is no more than a story. To have value it has to be positioned in a broader methodology: transition management

Visions from a TIS-professional: outlook

- The EBN/TIS approach should be part of a broader Foresight approach.
 - transition paths and a process approach with the right stakeholders
- Implementation innovation does not depend on technology alone
 - Has to ‘fight’ existing system
 - How to stimulate an innovation to flourish?