The inclusive, sustainable and connected society

IoT implementation in a Swedish municipality
Sustainable development

Circular economy

The Green Deal

Open data

Digital transformation

Internet of Thing (IoT)

SDGs

Sensors

LCM 2021
Background: Connected trashcans for route optimization in Södetälje

- Developed proof-of-concept project
  - Sensor on 160 trash cans which measures degree of filling
  - Enable route optimization and location planning for increased operational efficiency
- Other application areas ongoing (e.g. parking lots)
Project: The inclusive, sustainable and connected society

• Further investigate how machine generated and open data (based on sensors) can create insights that can be used for

  – **internal efficiency** (e.g. higher resource and cost efficiency related to resource and waste management), or

  – using open data sources as support for **citizen dialog and inclusiveness** regarding sustainability goals
Methods

Current state analysis
- Interview study, document analysis
- Internal workshop
- LCA of proof of concept

Concept development
- Hackathons

Test & evaluation
- Life cycle assessment
- Workshops, interviews, surveys
1(3) Prel. results: environmental impact of waste collection

- Waste collection can contribute approx. 12t CO2eq per year, mainly due to the trash bags.
- IoT system solution has insignificant impacts in comparison.
- Installation of sensors on trash cans can reduce consumption of the trash bags and worker’s time spent on waste collection.
2(3) Prel. result related to current state of digitalization in Södertälje

• Heterogeneity in perspectives, uses, needs, and capabilities related to digital technology

• Perennial phenomenon: IT seen as new problem to address rather than new means to address old problems

• Isolated beneficial digital tools/systems, but lack of strategic cohesion and oversight
3(3) Prel. result related to current state of citizen dialogue

- Current forms of dialogue incl. e.g. surveys and interviews, information campaigns, dialogue related to new building plans
  - Upcoming hackathons and citizen app
- Much awareness of the need of communication, and the need to include many interest groups in society
- Activities based on operational needs - could be more coordinated and strategic
- Need of more collaboration and shared practices between organizations voiced by respondents
An inclusive, sustainable and connected society?

- Machine generated open data provides many possibilities to share data with citizens.

- Sound IoT solutions, sustainability focus AND a citizen dialogue exists – A challenge (i.e. oppertunity) to bring them all together.

  - Next project step include concept development (e.g. sensors related to reuse and recycling)
    - combined with an environmental assessment, and
    - citizen dialog on the concept development
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