Intelligent recycling hubs
for high-quality material flows

Avfall i Nytt Fokus

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The idea – IOT in recycling

Design, develop and build **smart recycling hubs** with pedagogic, on-line units for sorting of recyclables from businesses, schools and households.

Includes smart containers/bins – communication platform – logistics system.

Creates **climate and environmental benefits** through
- increased interest in and knowledge about recycling
- minimization of space needs in buildings
- improved, needs-based logistics
- higher material quality

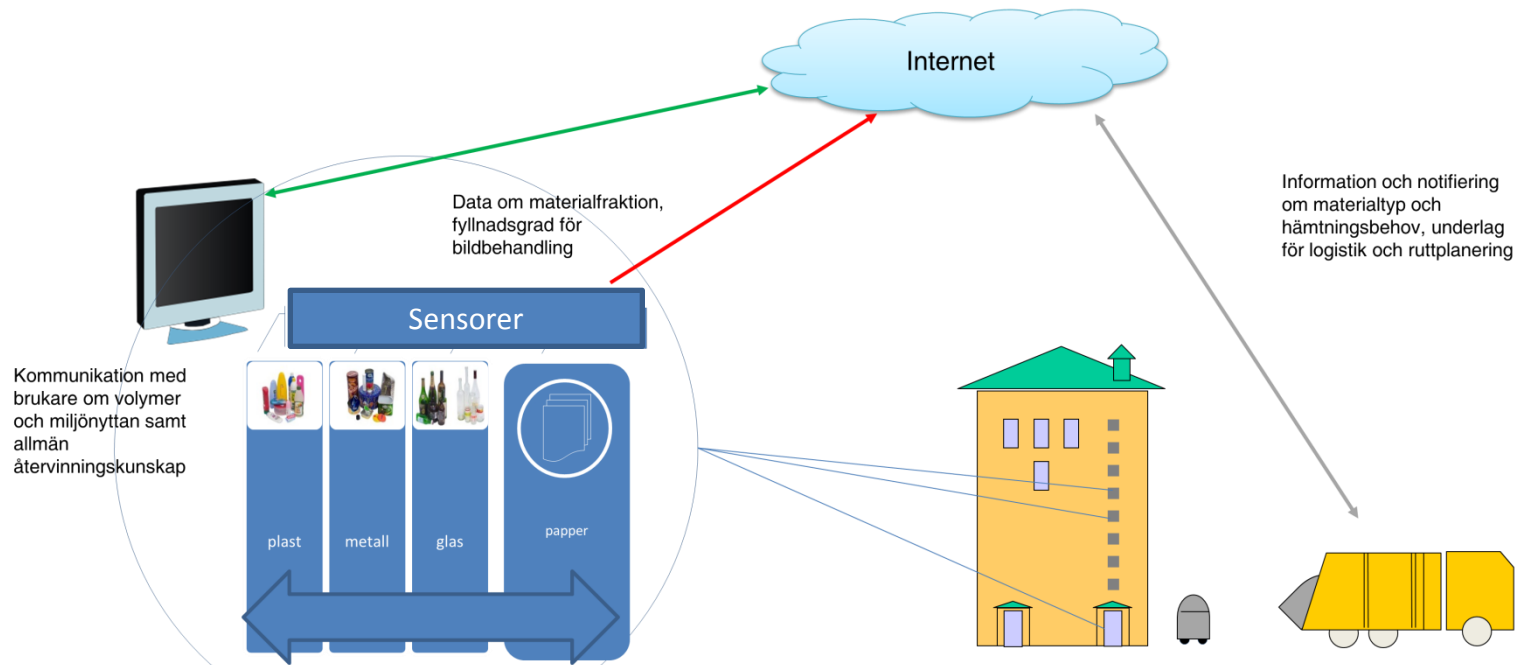Focus on human behavior and esthetics through cooperation with **HOWL Frankly**

Creative use of new technology through cooperation with **Dametric AB**

Recycling can be more efficient

Material recognition – Better sorting – Higher quality flows

Reliable level control – More efficient logistics

Internet

Data om materialfraktion, fyllnadsgrad för bildbehandling

Information och notifiering om materialtyp och hämtningsbehov, underlag för logistik och ruttplanering

Sensorer

Kommunikation med brukare om volymer och miljönyttan samt allmän återvinningskunskap

plast   metall   glas   papper

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Recycling should be a learning process

Real-time feedback on environment , energy and climate benefits

Interactive communication User vs Collection & recycling operator

Both man and machine are learning

Recycling should be more fun

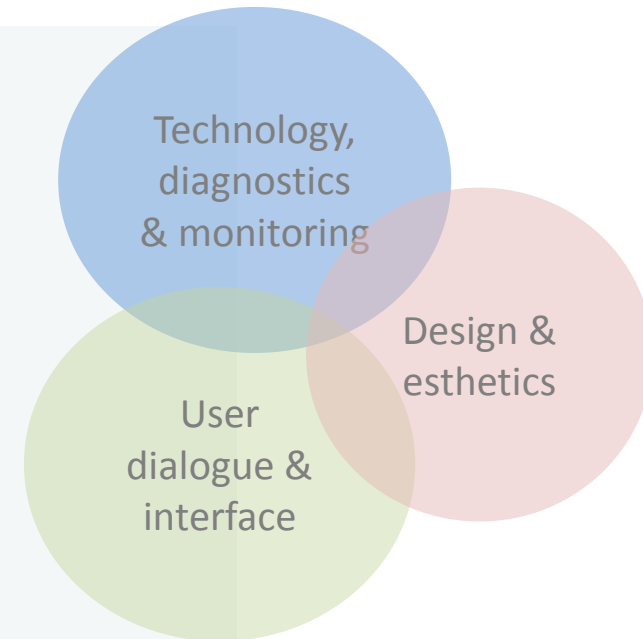Appealing   Interesting   Rewarding

How to design an attractive intelligent hub

Interaction design

- Awareness through relatable facts
- Create variation and surprise to keep people engaged
- The system should "grow" with the user
- Rewards and benefits (Positive reinforcement)
- Relatable, local and tangible positive outcomes
- Assistance when needed

Industrial design

- Add value by celebrating the hub, make it in to something more
- Make access effortless
- Locate bins closer to consumption (out of the recycling rooms)
- Modular thinking adapt to specific customer needs

Technology, diagnostics & monitoring

Design & esthetics

User dialogue & interface

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''Hubbe'' is here....and kicking

Circular economy – stakeholders