

Cycled Technologies

Novel Smart-Bin Technology
to Rapidly Identify, Sort &
Trace Waste

The Challenge – Increasing Global Waste

By 2030, the world is expected to generate 2.59bn tonnes of waste annually. However, despite efforts to increase recycling, just 2% of recycled waste gets made back into something of equivalent value. Major brands are particularly keen to be part of this circular economy but need traceability of their products through the recycling chain. The major issues are that waste is poorly separated at source and up to 30% is contaminated, reducing its value or completely compromising the recycle, resulting in it being landfilled or incinerated. There is a large and growing need to eliminate contamination of all types from public waste disposal, and improve traceability of waste, to maximise its value and thus increase the amount of material making it back into the circular economy.



The Solution – Capture

Project Capture will condense the expensive, complex sorting equipment of a centralised facility into a smart bin footprint, offering a complementary solution with the same sorting and brand recognition capabilities, whilst increasing versatility and minimising contamination. The flexible solution will eliminate 'wrong item', 'mixed item' and 'contaminated item' contamination, whilst allowing users to adopt familiar disposal practices (including mixed item disposal).

The Funding

The Neon team helped a consortium led by Cycled AS in Norway, to secure a €864,000 grant from the Eureka Eurostars programme to develop the key innovations underpinning Capture. These include the use of AI to classify waste type & manufacturing brand, and innovative sorting modules that can document, analyse & divert waste to the correct silo as it is deposited by the user.

The Impact

Successful completion will result in a unique Smart Bin solution that will extract sorted, uncontaminated recyclables from the public waste stream. Initial pilots indicate that they can sort 80% of deposited recyclable material, an increase of approximately 400% to traditional bins. This will maximise value & volume of waste and enable effective traceability. Cycled are projected to achieve six-year cumulative profits of €9.4m; a 23:1 return on initial investment.



eurostars™



24 months



€864,000 Grant



Cycled AS
(NO)

AI Superior GmbH
(D)

University of
South Eastern
Norway
(NO)

neon
innovation