



Caribbean Recycling Summit December 2016

Introductions

Value of using technology in recycling

Deposit-Return Collection

Material Sorting

THE USED BEVERAGE CONTAINER RECYCLING VALUE CHAIN

COLLECTION



The process of obtaining recyclable materials from the public

TRANSPORT



The process of picking up and transporting recyclable materials to sorting and processing facilities

SORTING & PROCESSING



The process of ensuring that materials are separated according to specific fractions and compacted for efficient transport

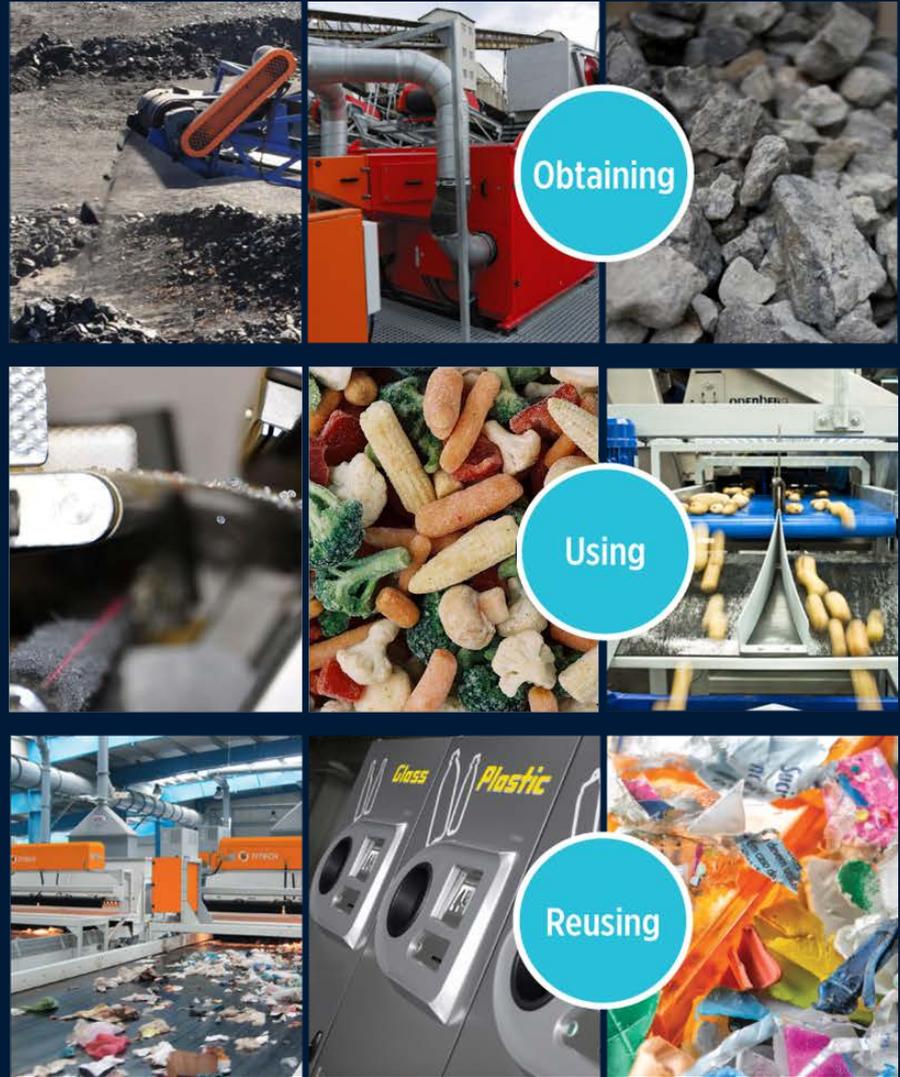
RECYCLING



The process of transforming materials into a form that can be used to produce new product

MISSION:

TOMRA creates sensor-based solutions for optimal resource productivity



TOMRA WORLDWIDE INSTALLED BASE



REVERSE VENDING

74,500 RVMs



RECYCLING

4,469 units

MINING

89 units

FOOD

5,860 units

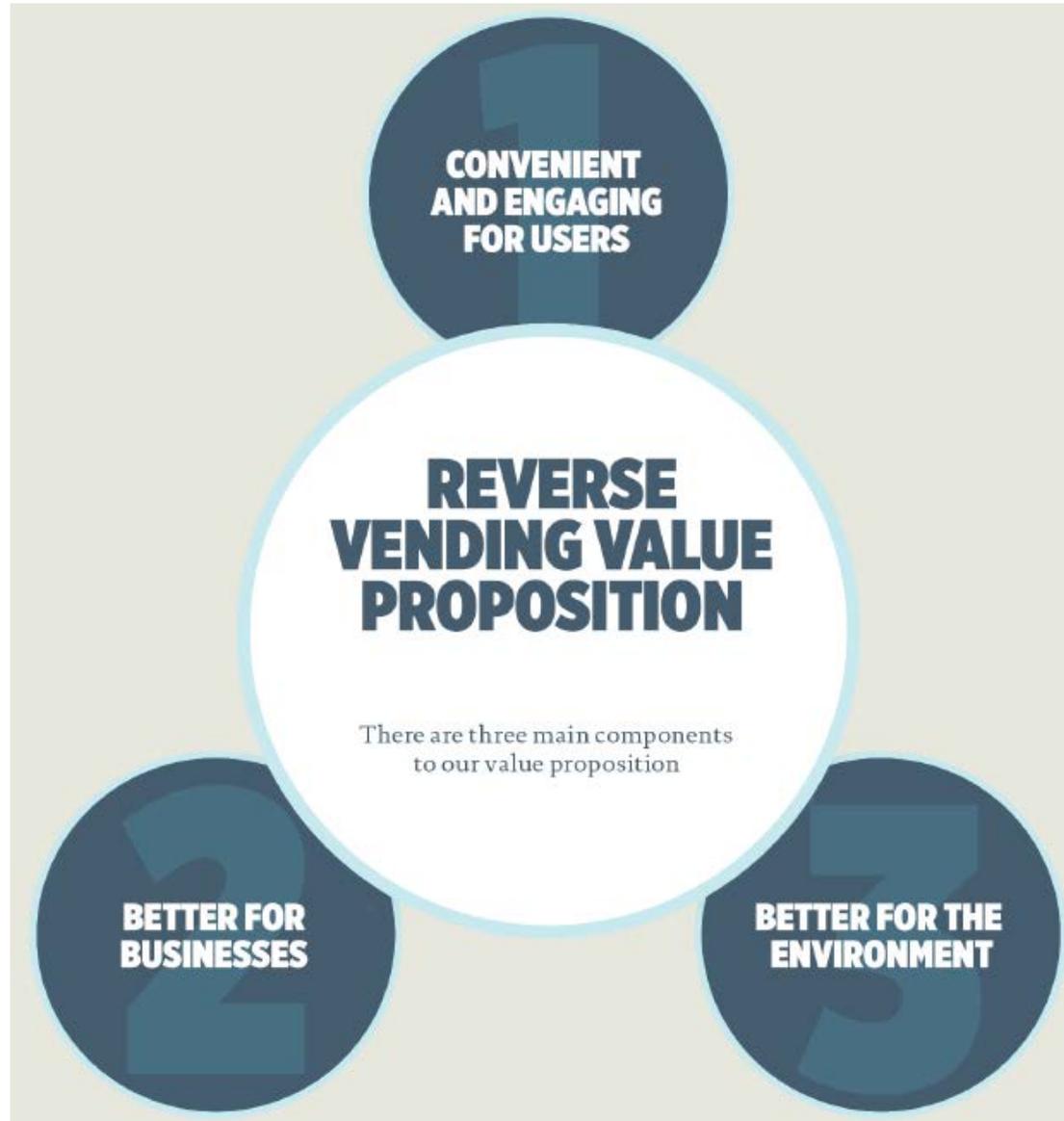
TOMRA COLLECTION SOLUTIONS



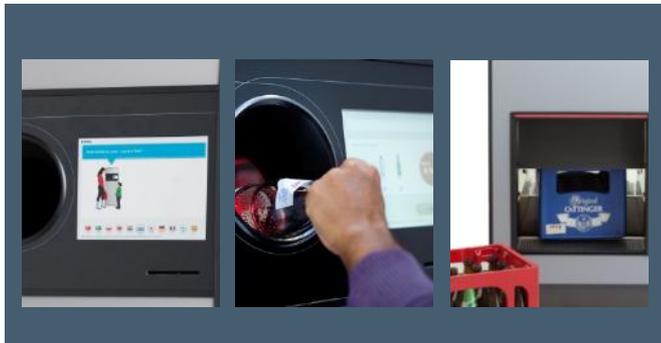
REVERSE VENDING TECHNOLOGY: CONSUMER & BULK



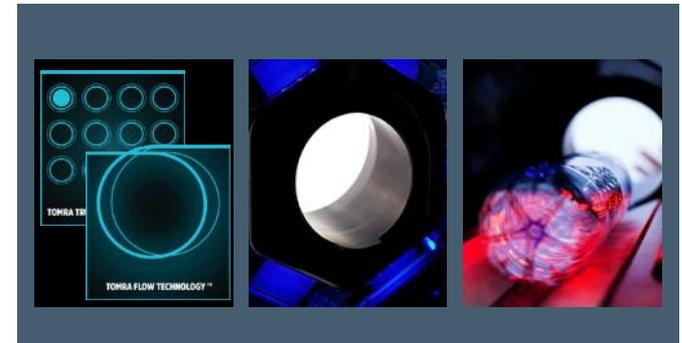
REVERSE VENDING ADVANTAGES



ELEMENTS OF A MODERN REVERSE VENDING SYSTEM



User communication



Recognition system



Sorting & processing



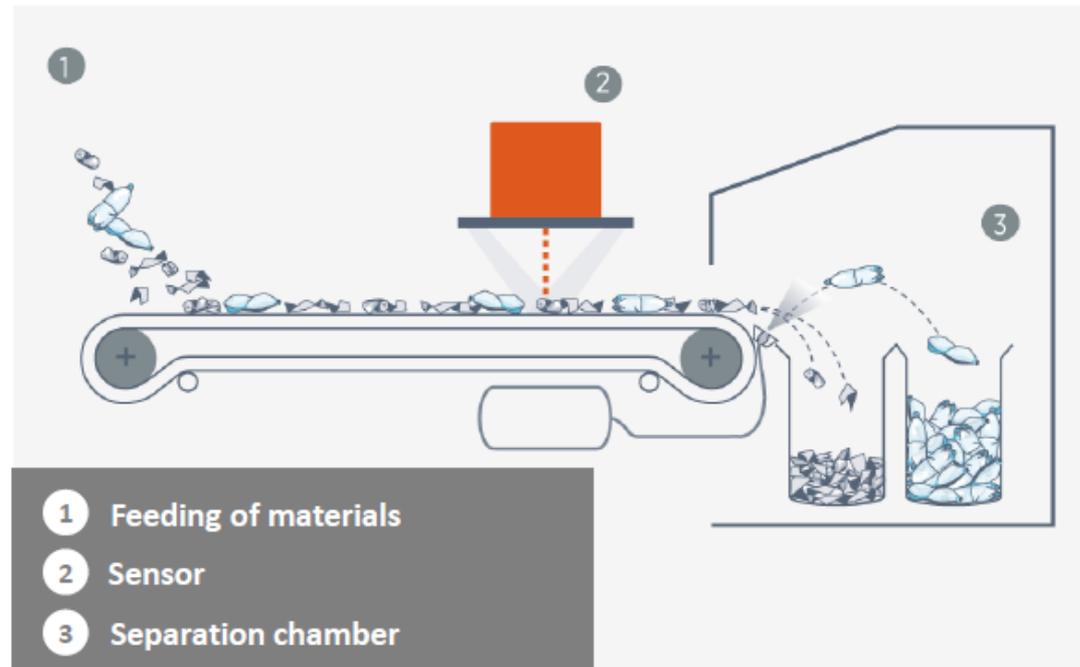
Data administration

TOMRA SORTING SOLUTIONS

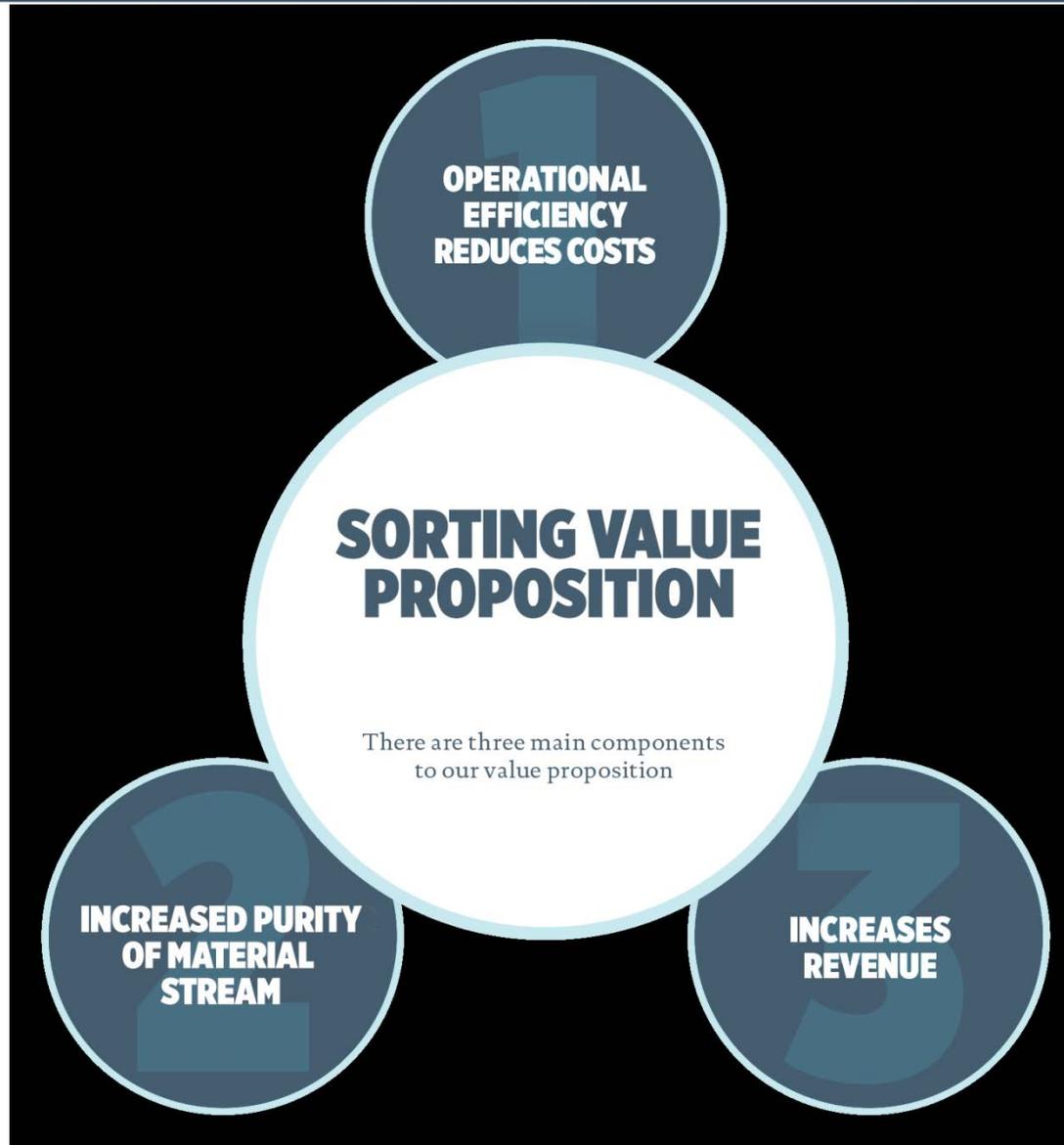


HOW DOES SENSOR BASED SEPARATION WORK?

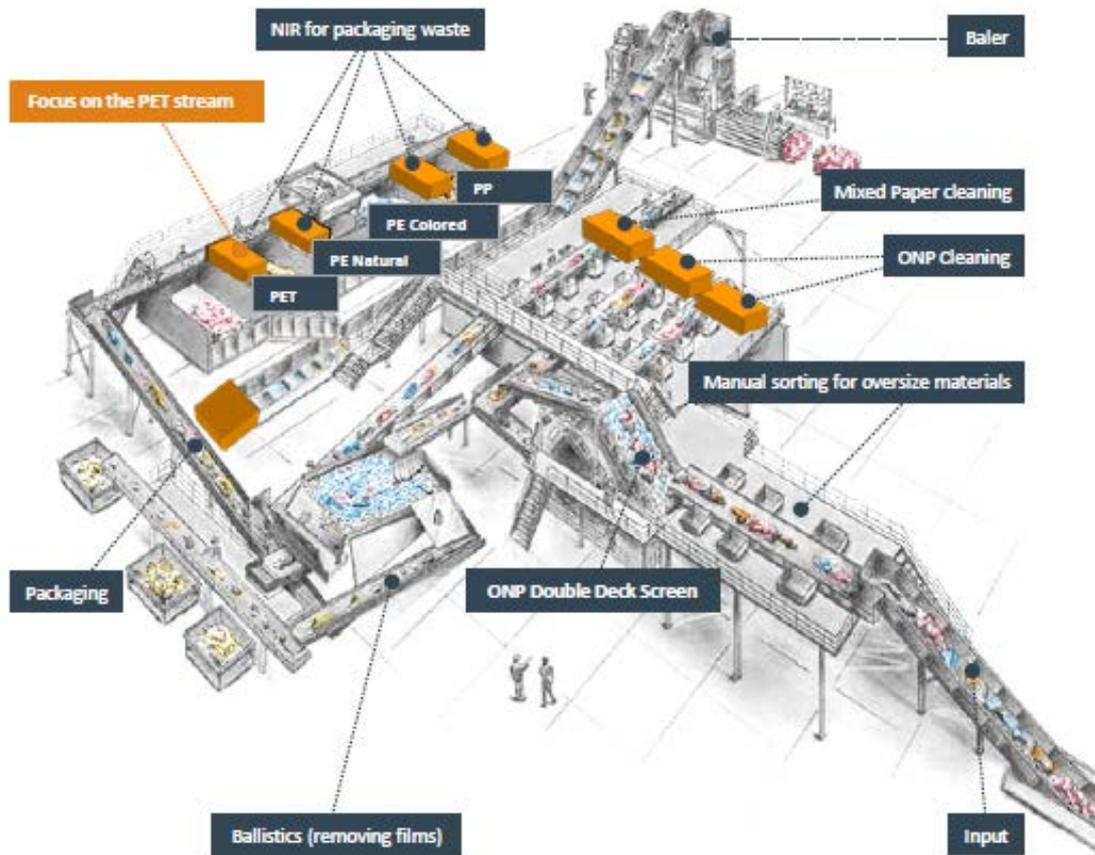
- High-tech sensors to **identify objects**
- **High speed processing** of information (material, shape, size, color, defect, damage and location of objects)
- **Precise sorting** by air jets or mechanical fingers
- **Product specific equipment design** often including multiple technologies to maximize sorting efficiency



SORTING VALUE PROPOSITION



SORTING SOLUTIONS - Recycling



- Commodity price levels
- Consumption or production levels increase
- Favorable changes in regulatory framework
- Access to financing
- Demand to include recycled-content
- Increasing labor costs
- Consideration of municipal solid waste (MSW) Recycling

A close-up photograph of a person's hands, wearing a blue button-down shirt, holding two different forms of recycled plastic. The left hand holds a pile of bright green, irregularly shaped plastic shreds. The right hand holds a pile of small, uniform white plastic pellets. The background is a blurred outdoor setting.

RECOVERY INTO REUSE