

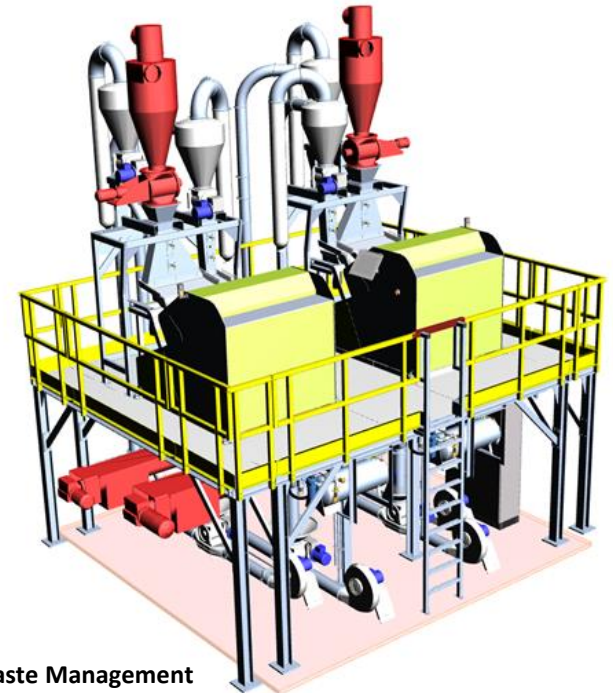
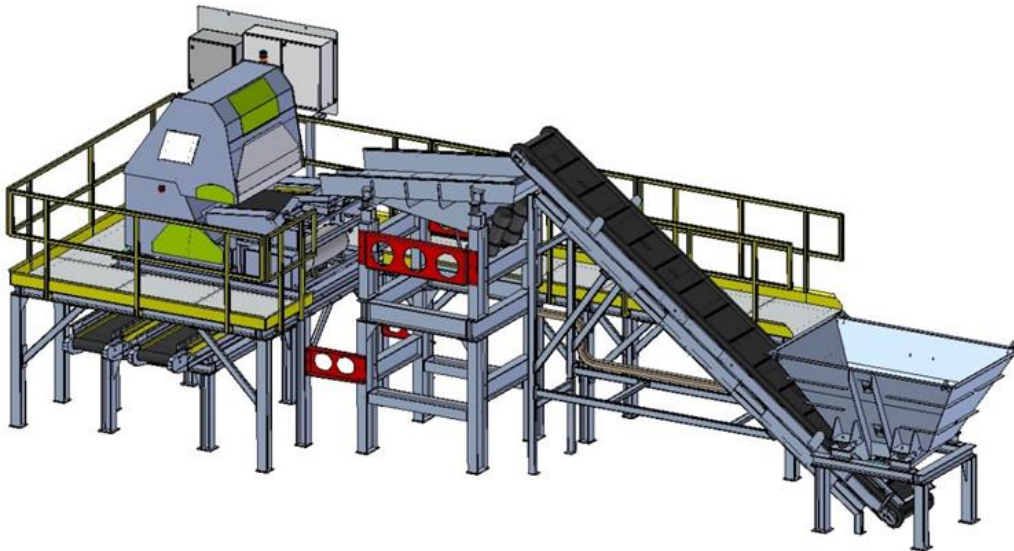
# Driving Impact

Sesotec – Division Sorting Recycling

Tobias Eder, Sesotec GmbH

# Sesotec – Company profile

- Funded: 1976
- Employees: 540
- R&D Quote: 10%
- Business Units: - Sorting Recycling  
- Product inspection Food  
- Product inspection Plast
- Installed Systems: 2,300 only Recycling (83,000 total)



Tobias Eder, Sesotec GmbH



# Sorting Recycling – product overview



VARISORT+



VARISORT WEEE



FLAKE PURIFIER+



VARISORT COMPACT



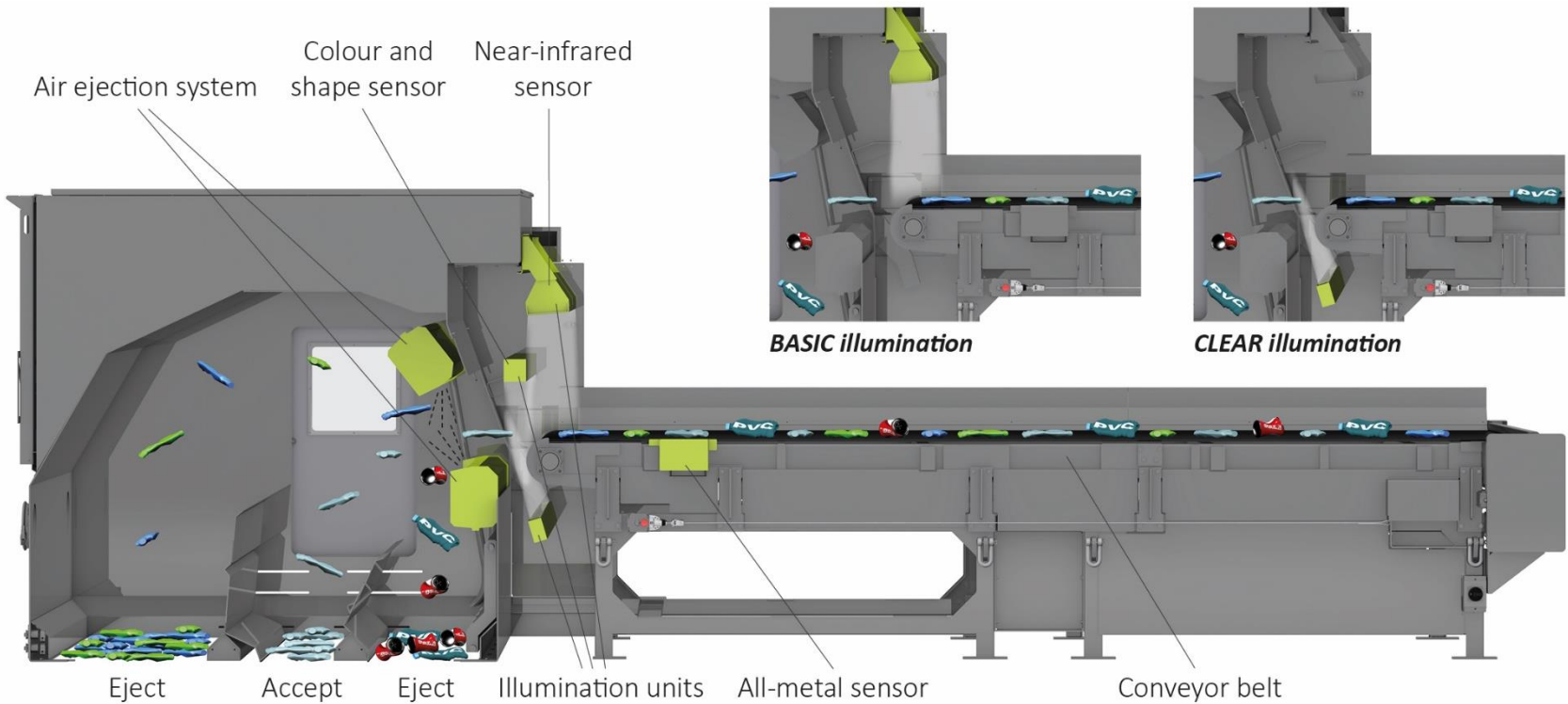
FLAKE SCAN

# Sesotec - Sensors

**C:** Color and shape sensor

**M (+):** Inductive metal sensor for metal detection (and identification)

**N:** Hyperspectral sensor (NIR)



# C - Color detection

CCD line scan camera with a resolution of up to 0.375 mm and about 17 million teachable colors in combination with different illumination options



## Function

- Top light - detection of the reflection of opaque material
- Transmitted light - detection of transmission in transparent material

## Applications

- Sorting by color
- Sorting by shape
- Separation of colored material from a clear fraction

# N – Near-infrared detection

In addition to the standard differentiation of all known polymer types, the following special applications can be fulfilled by the Sesotec NIR Cam:

- Flame retardant detection
- Detection of PET trays (mono/multi)
- Differentiation of LDPE and HDPE
- Differentiation of HDPE bottle & foamed HDPE
- Detection of various "bottle/label combinations"
- Distinction between PET & PETG (bottles & flakes)



The "plastics library" can be adapted to all special customer requirements since the software for this is developed inhouse at Sesotec.

# Sesotec – Challenges in Recycling

## What technology is needed by the recycling industry:

- Reliable technology that can detect black polymers (detection accuracy at NIR level)
- LED with 1300-1900nm wavelength (powerful enough to allow NIR detection)
- Computing power (integrated photonics) for future applications to a reasonable price

## What can we offer:

- Opportunity to test the products in an industrial environment
- Detailed feedback about our findings
- Cooperation in research projects
- Over 40 years of experience on contamination detection, material sorting and analysis

# Sesotec – The future of recycling

Closed loop recycling  
(i.e. Bottle to Bottle)

Growth rate for waste  
separation estimated to be  
8,2% annual till 2030

Higher targets for the use  
of recyclates  
(EU legislation)

AI assisted detection and  
sorting processes

“Waste” is increasingly  
becoming an important raw  
material

Use of new sensors:

- LIBS
- X-Ray: XRF / XRT
- Laser
- MIR
- Terahertz .....



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