

Recyclable solutions for everyday packaging

# PACK FOR THE FUTURE

**Packaging Fair**  
June 16, 2026

**Chassé Theater**  
Claudius Prinsenlaan 8, Breda



# Label Removability

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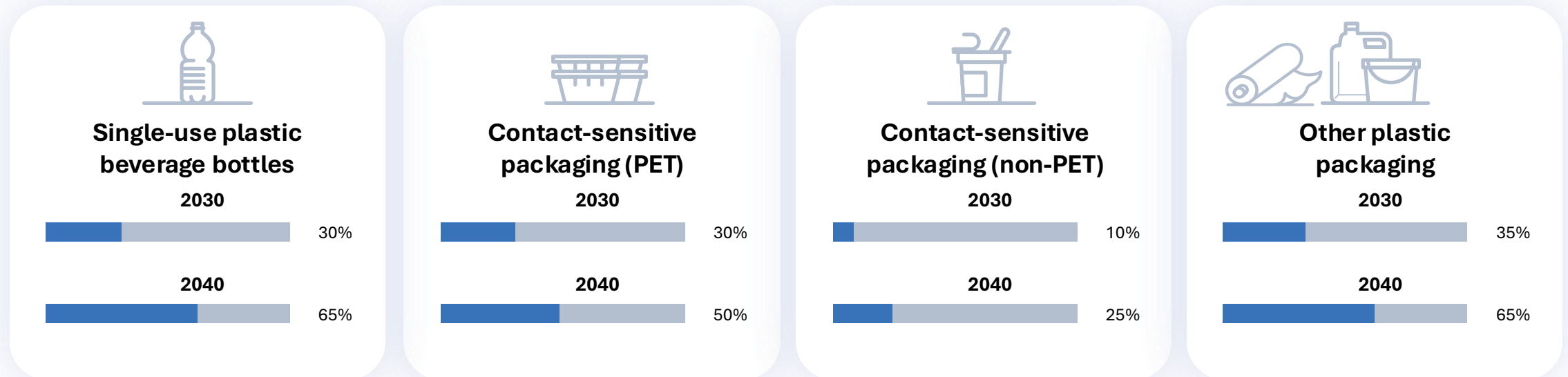
# Label removal drives recyclate quality



# Minimum Percentage Recycled Content

From January 2030, all plastic packaging components shall contain at least a certain amount of certified **post-consumer recycled material**.

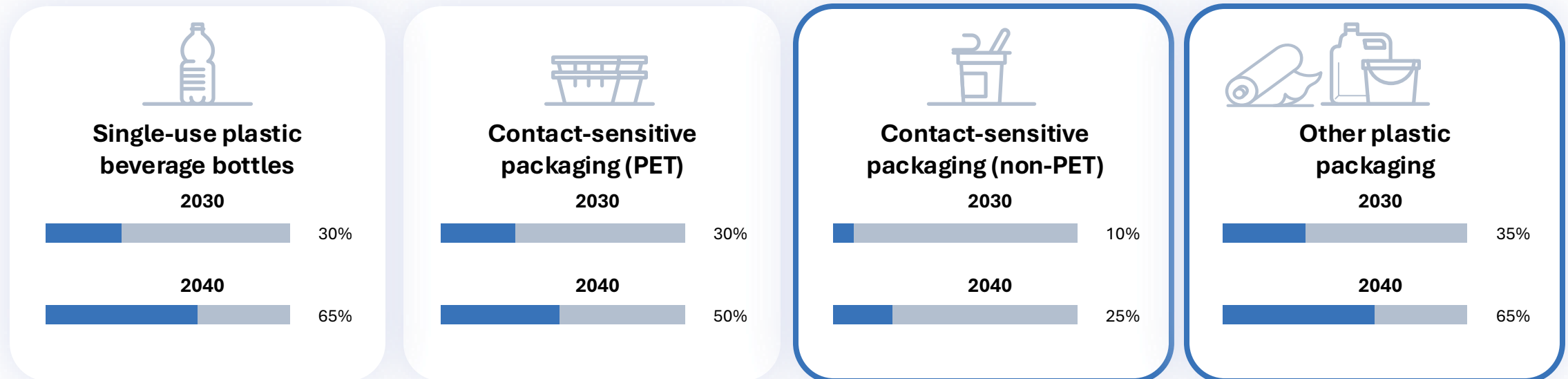
Targets are defined by packaging type and format and are calculated as an average per manufacturing plant and per year.



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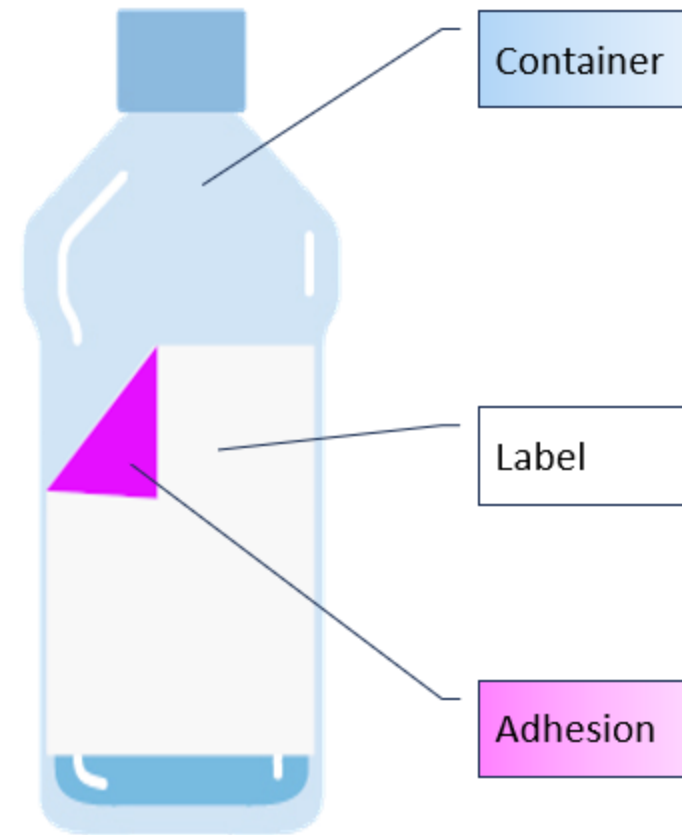


# Assessment of the impact of labels and adhesives on recyclability on the quality of recycling

This research focussed on the proces after sorting.

Labels impact recycling by:

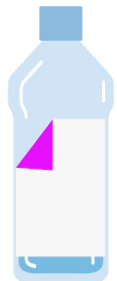
- Label material itself
- Present adhesives
- Present inks



# Assessment of label removability on rigid PE or PP disposable units



Verpact developed with NTCP a cold- and hot-wash protocol for label releasability assesment

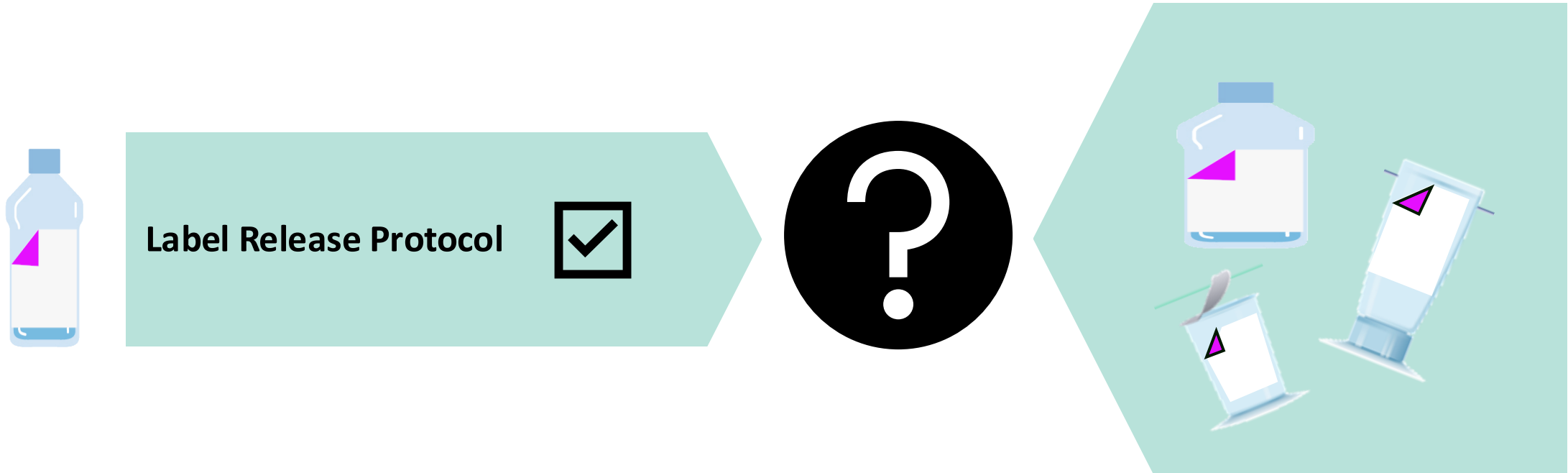


Recyclclass developed with NTCP a comparable protocol

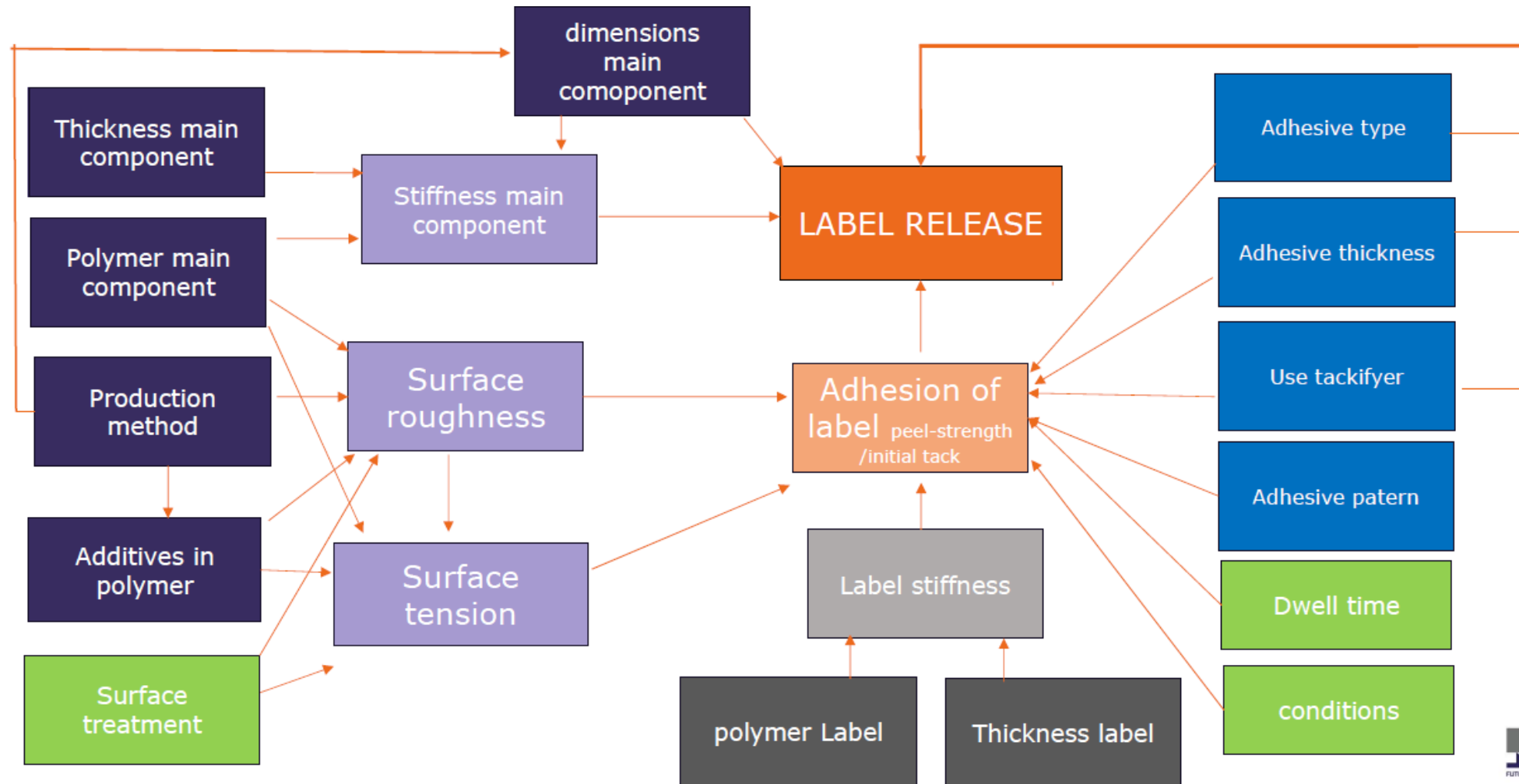


Without assessment against the Verpact protocol, it is not possible to achieve a 'Good Recyclability' rating

# Assessment framework for label removability

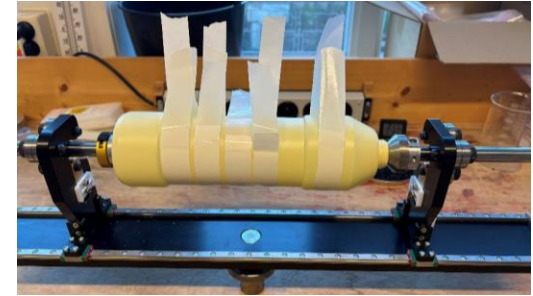


# Parameters that impact label release



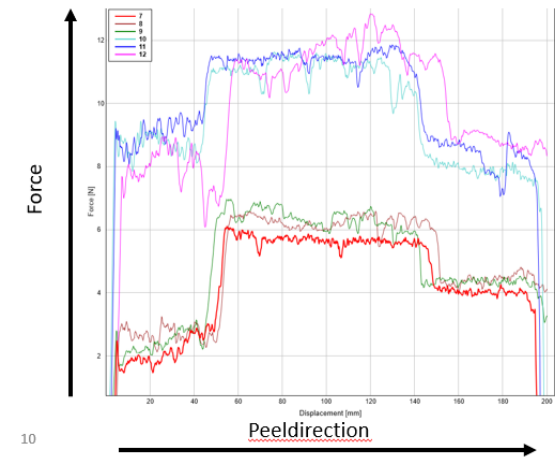
# Critical parameters tested

- **Surface Roughness ( $R_a \mu\text{m}$ )**
  - Strong correlation
  - Non-Linear correlation
- **Material thickness in label area (mm)**
  - No strong correlation observed, but easy to measure
- **Surface tension (nN/m)**
  - No clear correlation observed Complex to test



Peel test output

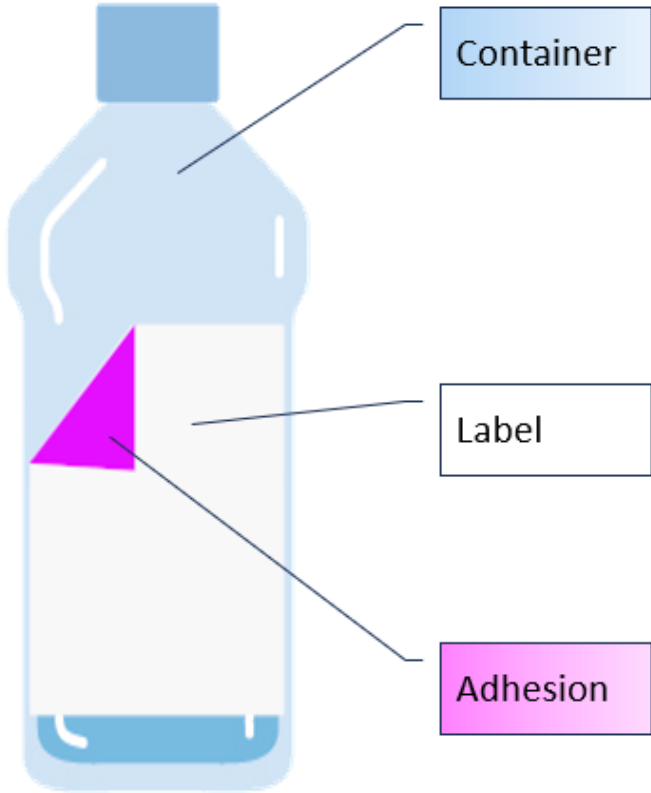
Sample: HDPE plate and labels 3 and 4



Tests performed by Polymer Science Park

# Critical parameters for label removal

- Critical Parameters as indicated
- Additional parameters to be specified



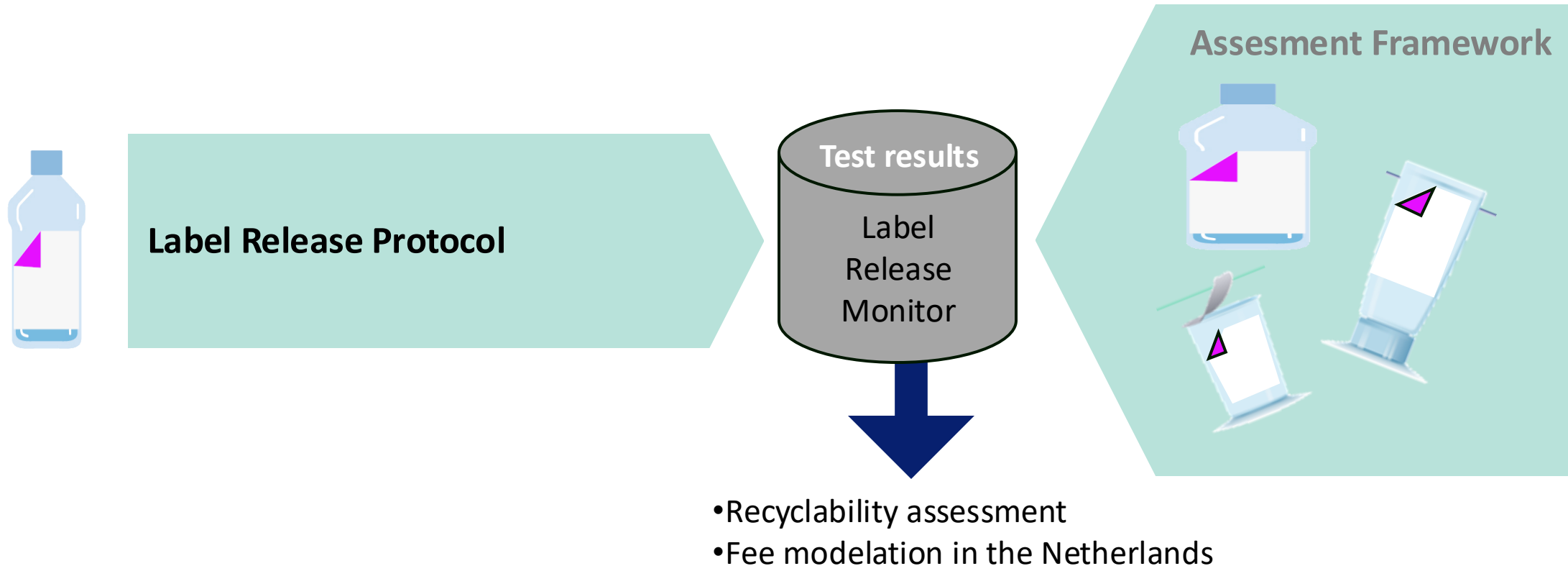
Base material\*  
Packaging form / Production proces\*  
Material thickness at label area\*  
Surface roughness at label area  
Coatings, treatments and additives

Base material / bonding layer\*  
Material thickness\*

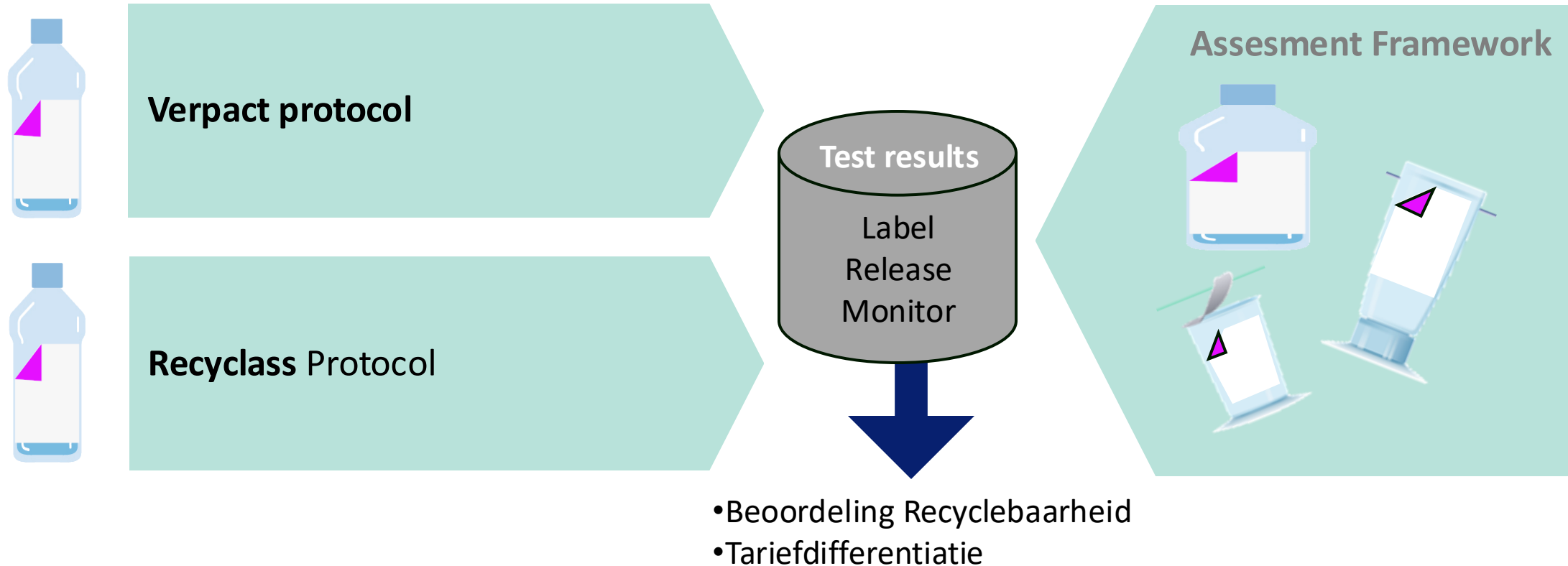
Manufacturer / type designation\*  
Adhesion type\*  
Application pattern\*

*Overview of parameters \*Marked parameters are critical and must be displayed with the test results.*

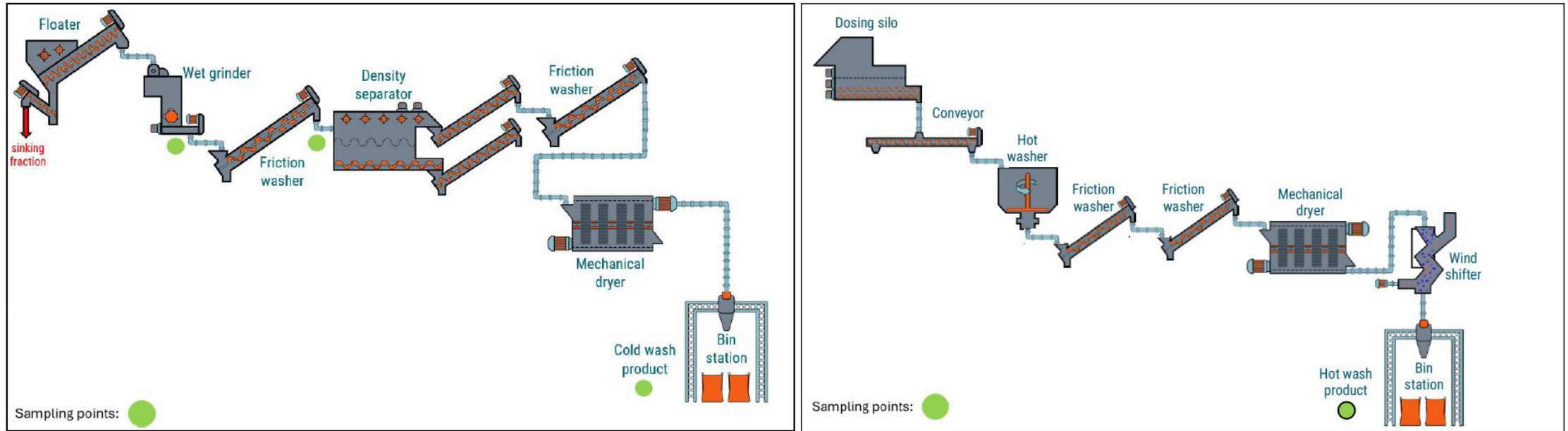
# Assessment framework for label removability



# Assesment framework for label removability



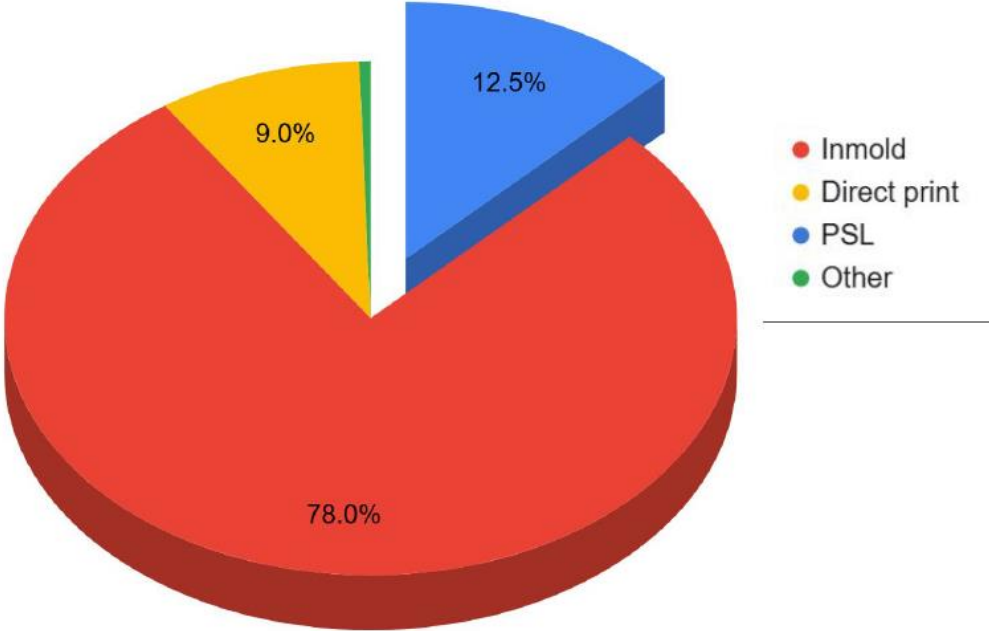
# Sampling Points for Cold- and Hot-wash



NTCP: Sampling points for industrial test PP packaging waste (DKR 324)

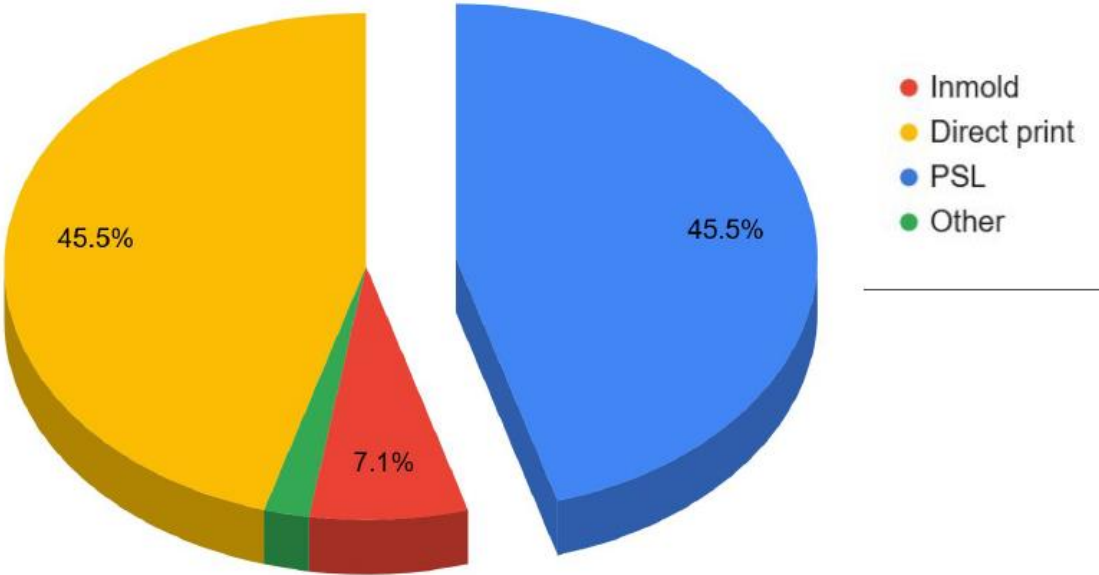
# What is the impact of labels on recycling?

Decoration type on PP flakes (n=200)



Decoration analysis PP fraction  
After cold and hot wash

Decoration type on PE flakes (n=100)



Decoration analysis PE fraction  
After cold and hot wash

# Conclusion and Next steps

## Conclusion

- Critical parameters have significant impact on label removal
- Label Removal is essential for recycling quality
- Rewarded with Fee Modulation in NL
- Relevant for CEN guidelines and the PPWR

## Next steps

- Implement the assessment framework
- Launch the Label Release Monitor
- Accept the Recyclass protocol for Verpact Recyclecheck
- Learn from shared test results



# Practical example



Thank you for your attention.



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