RecyClass

RecyClass Unwrapped
Recyclability Methodology

Welcome to the *RecyClass Unwrapped* webinar

Moderated by
Achim Grefenstein|Senior Vice President Group R&D|Constantia Flexibles GmbH

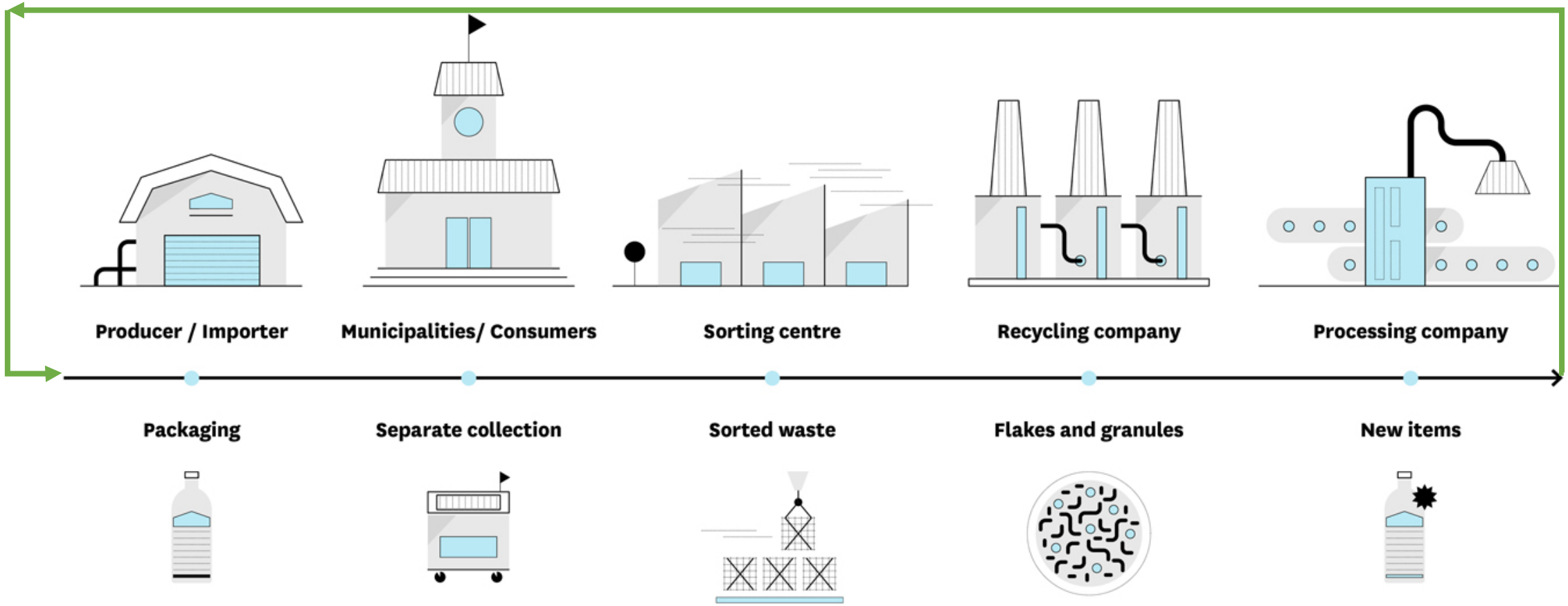
RecyClass

RecyClass Unwrapped Webinar

Recyclability Methodology

Fabrizio di Gregorio

Recycling is possible only if the supply chain exists



RecyClass

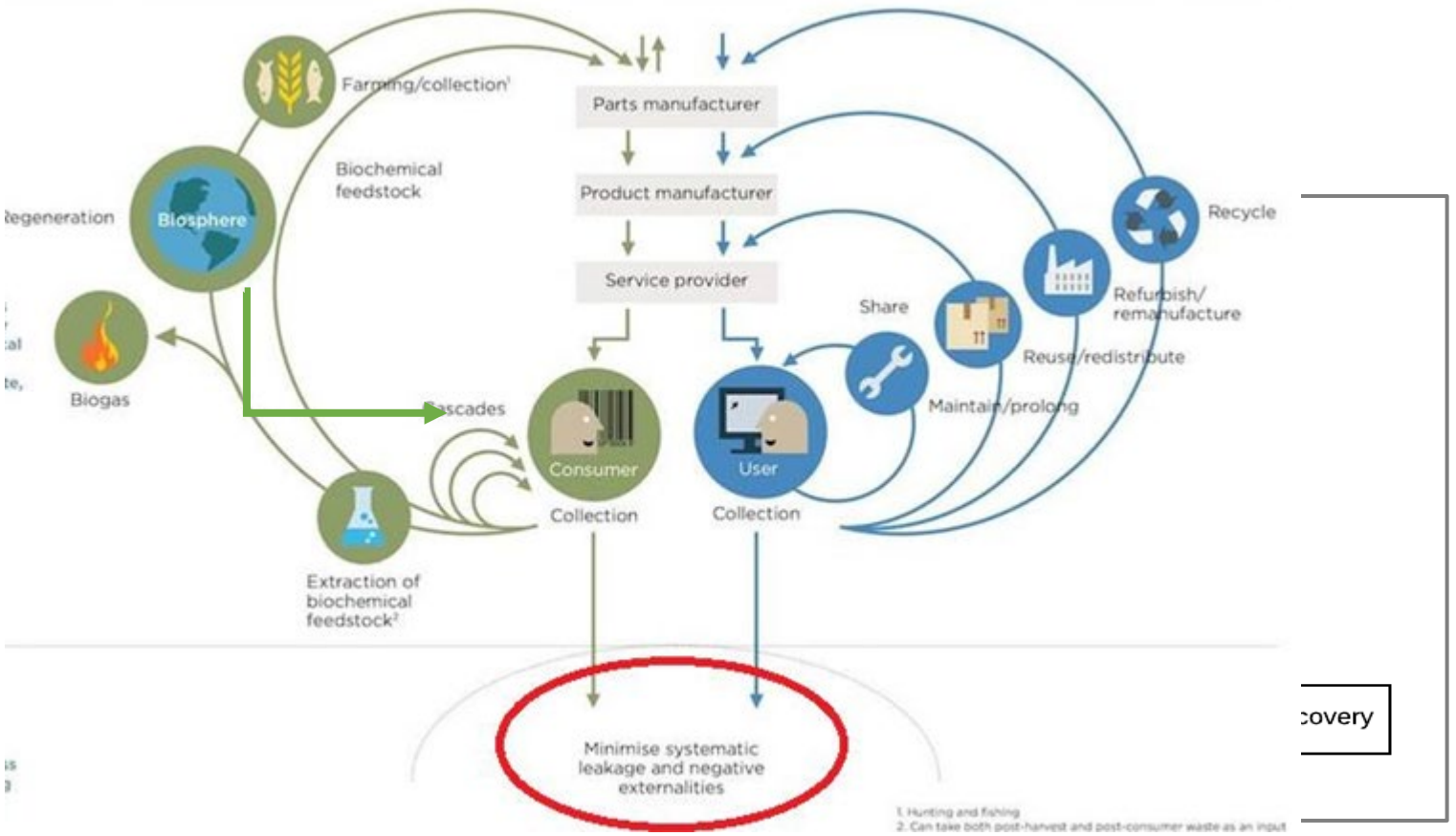
What does recyclability mean?

1. The product must be **made with a plastic that is collected** for recycling, has market value and/or is supported by a legislatively mandated program.
2. The product must be **sorted and aggregated into defined streams** for recycling processes.
3. The product **can be processed and reclaimed/recycled** with commercial recycling processes.
4. The recycled plastic becomes a raw material that **is used in the production of new products.**

RecyClass

What does CIRCULARITY mean?

'A circular economy is one that is restorative and regenerative by design and **aims to keep products, components and materials at their highest utility and value at all times**' *(MacArthur, 2015)*

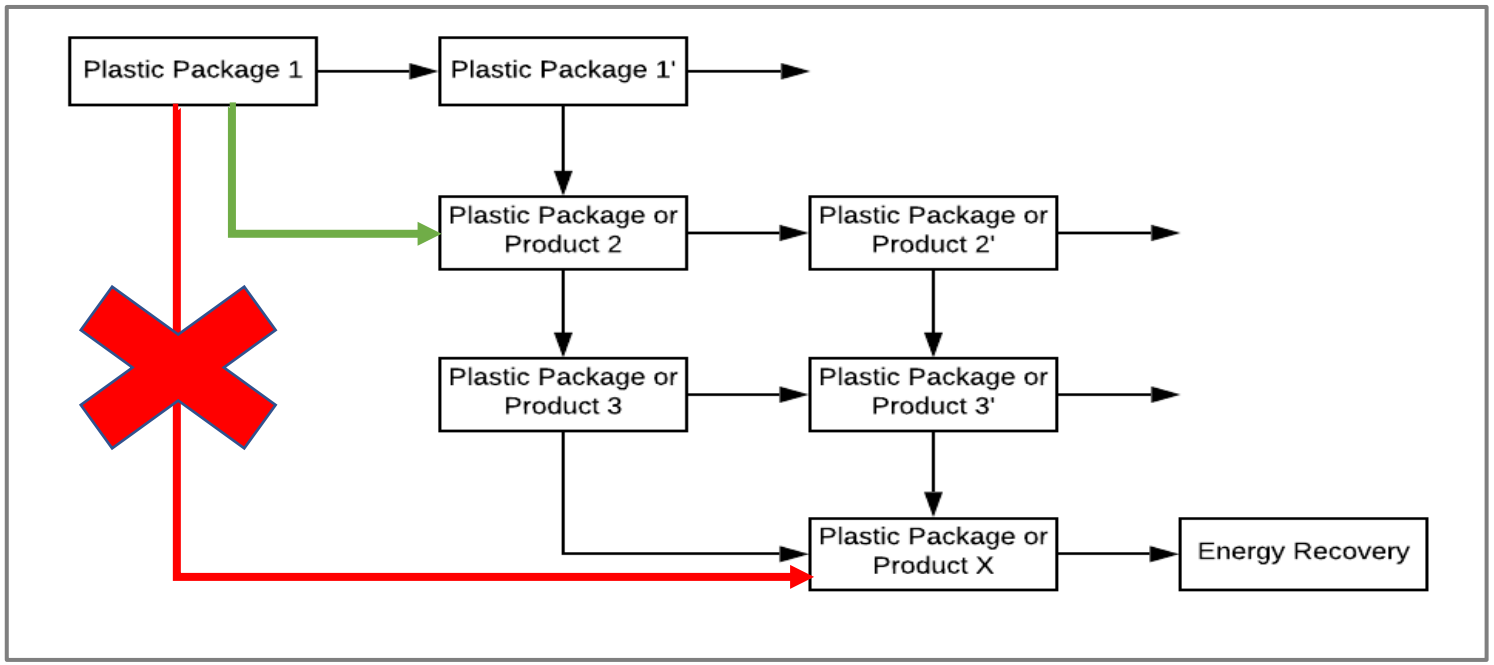


RecyClass

What does CIRCULARITY mean?

‘A circular economy is one that is restorative and regenerative by design and **aims to keep products, components and materials at their highest utility and value at all times**’ *(MacArthur, 2015)*

There are cases where functionality requirements make certain packaging hard to be designed for closed-loop recycling systems. However, design choices leading to the longer multiple-step cascaded recycling must be favoured.



RecyClass

How to claim recyclability with RecyClass?

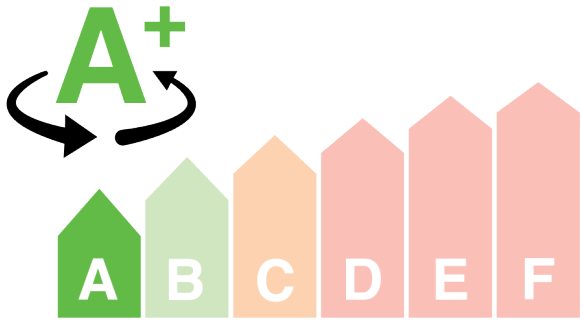
Design for Recycling Guidelines → RecyClass Tool → Recyclability Certification

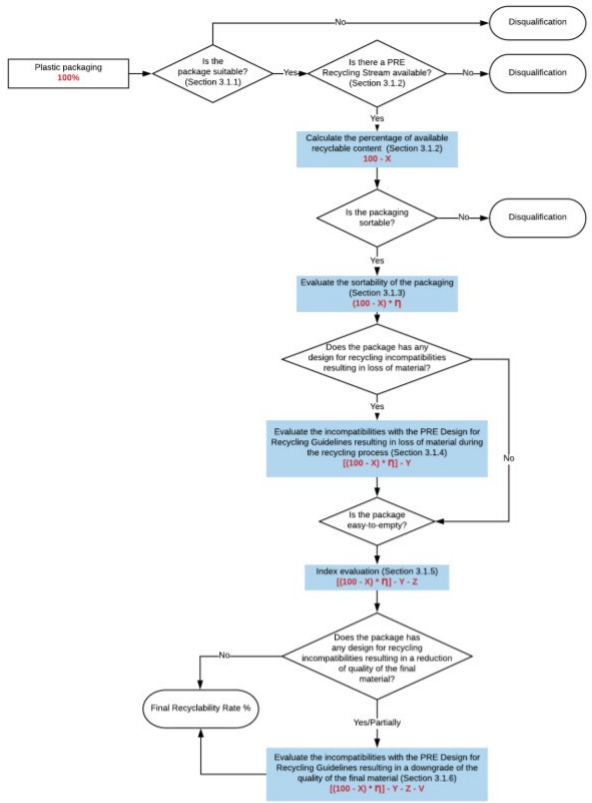
PE Transparent Flexible Films

RecyClass™	YES - FULL COMPATIBILITY A-B * Materials that passed the testing protocols with no negative impact OR materials that have not been tested (yet), but are known to be acceptable in PE recycling	CONDITIONAL - LIMITED COMPATIBILITY B-C * Materials that passed the testing protocols if certain conditions are met OR materials that have not been tested (yet), but pose a low risk of interfering with PE recycling	NO - LOW COMPATIBILITY D-E-F * Materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PE recycling
Film	PE-LD, PE-LLD; PE-HD	multilayer PE/PP	any other polymer (ex. PET, PVC, etc.)
Colours	unpigmented; transparent	light colours; translucent colours	dark colours; black; carbon black
Barrier	barrier in the polymer matrix; SiOx and AlOx without additional coatings	< 5% EVOH (in polyolefinc combination film); metalized layers without coatings; EcoLam High Plus; VO+ LLDPE	> 5% EVOH (in polyolefinc combination film); barrier layer PVC, PVDC, PA; any other barrier layer; foaming agents used as expandant chemical agents; aluminium
Additives			Bio-/oxo-/photodegradable additives; additives concentration > 0,97 g/cm³
Closure Systems	PE-LD, PE-LLD, PE-HD	PP, PET, PETG, PS, PLA	metal, aluminium, PVC, non PO or foams with density < 1 g/cm³
Liners, Seals and Valves	PE-LD, PE-LLD, PE-HD	PP, PET, PETG, PS, PLA, removable aluminium fasteners	metal, aluminium, PVC, foiled paper, non PO or foams with density < 1 g/cm³
Labels	PE	PP, paper labels without fiberloss	metallized labels, any other; paper labels with fibreloss
Adhesives for labels	Water soluble or water-releasable at less than 60°C		Adhesives non-soluble in water or non-releasable in water at less than 60°C
Inks	no inks	Non-toxic (according to EUPIA guidelines)	Inks that bleed; Toxic or hazardous inks.
Direct Printing	Laser marked print; Printed production or expiry date	printing covering < 50% **	printing covering > 50% **
Other Attachments	PE-LD, PE-LLD, PE-HD	PP , PET, PETG, PS, PLA	metal, aluminium, PVC, paper, foams with density < 1 g/cm³

Last update - June 2020

* Class ranking resulting by the RecyClass assessment. B class is reported two times because of the 90-95% amount of PE in the packaging or because of slight incompatibilities in the design
** temporary solution





- The DfR Guidelines are transposed to the tool.
- The overall recyclability of the finished package can be assessed.

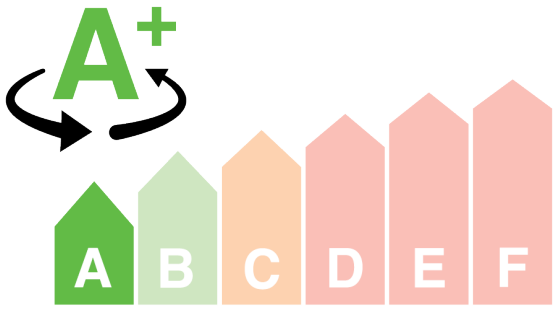
- Recyclability **Self-Assessment**
- Recyclability Expert-checked

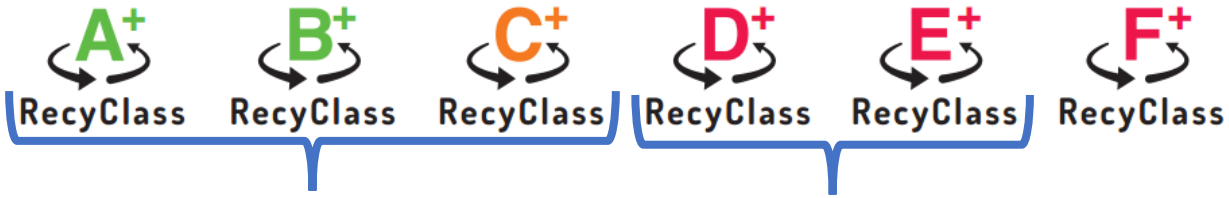
RecyClass

What is the RecyClass tool?

- **A tool that ranks the recyclability of a plastic packaging**
- It evaluates the package recyclability given the existing recycling streams.

- It gives indications to the user about precise critical points to be improved.





CIRCULAR NOT CIRCULAR

RecyClass

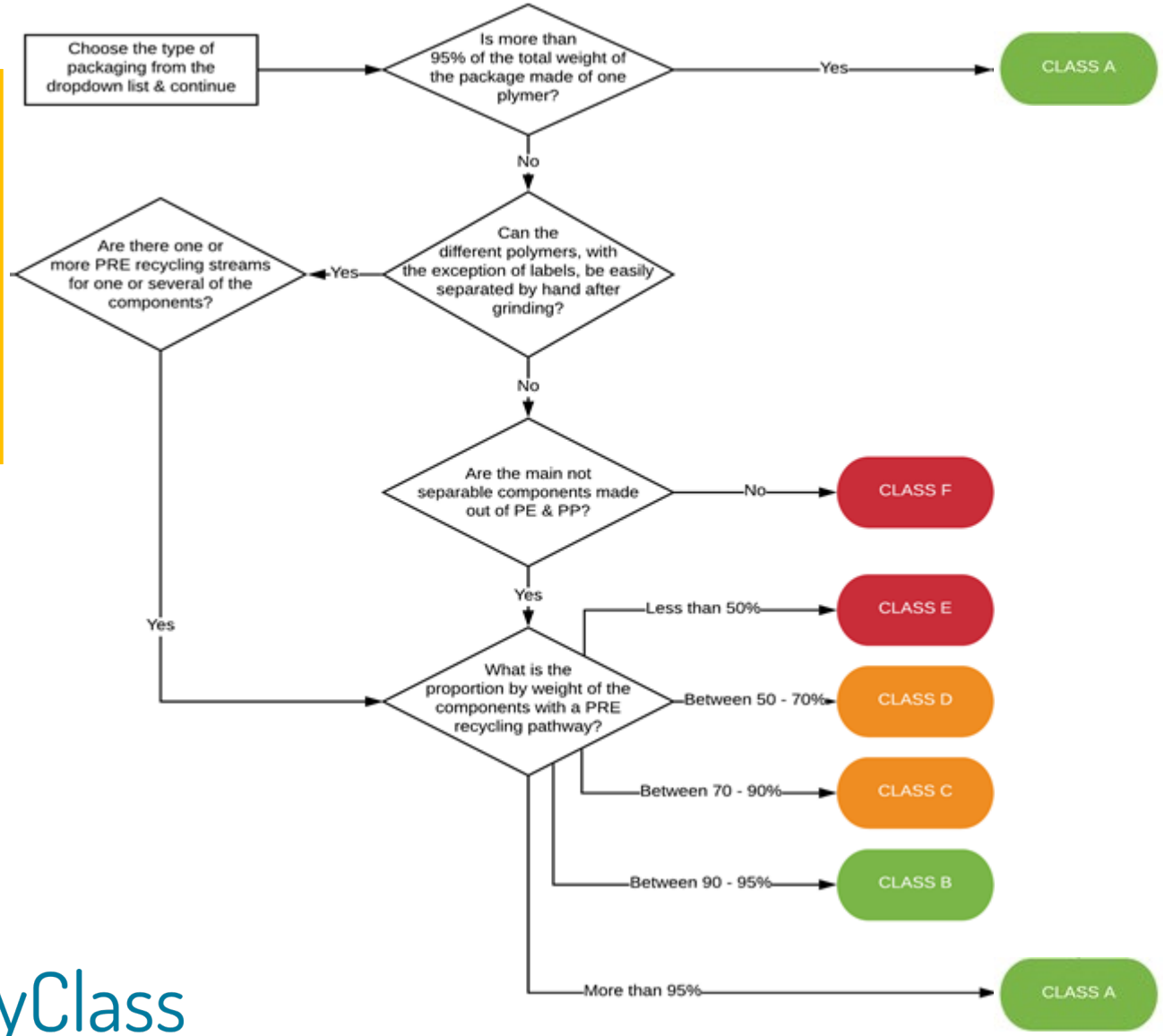
Packaging composition (prerequisite)

It is based on different areas of questioning.

- General questions (packaging composition)
- Incompatibilities (DfR guidelines)
- % of recycled plastics content
- Easy-to-empty / Easy-to-access index
- REACH Compliance

Weights of barrier, coating, mineral fillers, closure, label/sleeve, adhesive, printing, as well as any other components have to be considered.

Mono-material packaging is preferred. Indeed, the larger the content of one polymer in the packaging, the higher its recyclability rate will be (i.e. the amount of main plastic effectively recycled).



RecyClass

Recyclability Ranking

- The Design for Recycling Guidelines are transposed to the RecyClass tool
- The overall recyclability of the packaging is assessed.

PE Transparent Flexible Films

RecyClass™

	YES - FULL COMPATIBILITY A-B * Materials that passed the testing protocols with no negative impact OR materials that have not been tested (yet), but are known to be acceptable in PE recycling	CONDITIONAL - LIMITED COMPATIBILITY B-C * Materials that passed the testing protocols if certain conditions are met OR materials that have not been tested (yet), but pose a low risk of interfering with PE recycling	NO - LOW COMPATIBILITY D-E-F * Materials that failed the testing protocols OR materials that have not been tested (yet), but pose a high risk of interfering with PE recycling
Film	PE-LD, PE-LLD; PE-HD	multialyer PE/PP	any other polymer (ex. PET, PVC, etc.)
Colours	unpigmented; transparent	light colours; translucent colours	dark colours; black; carbon black
Barrier	barrier in the polymer matrix; SiOx and AlOx without additional coatings	< 5% EVOH (in polyolefinc combination film); metalized layers without coatings; EcoLam High Plus; VO+ LLDPE	> 5% EVOH (in polyolefinc combination film); barrier laye as xpandant chemical agents; aluminium
Additives			Bi oxo-/photodegradable additive; additives concentration > 0,97 g/
Closure Systems	PE-LD, PE-LLD, PE-HD	PP, PET, PET , PS, PLA	me l, aluminium, PVC, non PO or fo s with density < 1 g/cm³
Liners, Seals and Valves	PE-LD, PE-LLD, PE-HD	PP, PET, PET , PS, PLA, removable aluminium fasteners	me l, aluminium, PVC, foiled paper, n PO or foams with density < g/cm³
Labels	PE	PP, paper labe without fiberloss	me ilized labels, any other; paper la s with fibreloss
Adhesives for labels	Water soluble or water-releasable at less than 60°C		Ad sives non-soluble in water or no eleasable in water at less tha 60°C
Inks	no inks	Non-toxic (acc ding to EUPIA guidelines)	In that bleed; To or hazardous inks.
Direct Printing	Laser marked print; Printed production or expiry date	printing coveri < 50% **	pri ng covering > 50% **
Other Attachments	PE-LD, PE-LLD, PE-HD	PP , PET, PET , PS, PLA	me l, aluminium, PVC, paper, foams ith density < 1 g/cm³

-1 class

-3 classes

A+ RecyClass B+ RecyClass C+ RecyClass D+ RecyClass E+ RecyClass F+ RecyClass

RecyClass

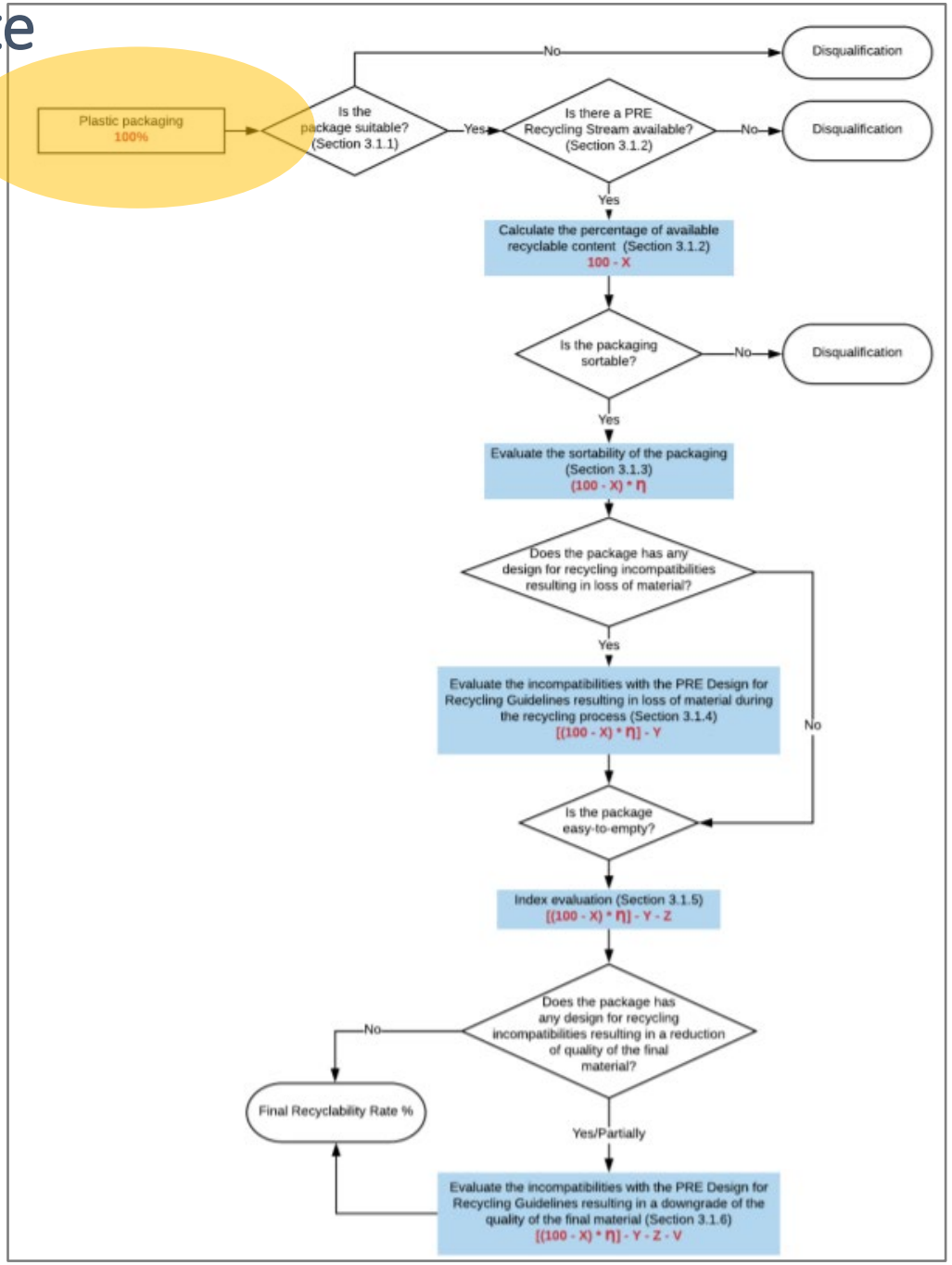
Recyclability Certification: available for final package

Design for Recycling Assessment	• Qualitative Assessment: ranking from A to F • Based on the packaging design and the end-market • Valid for the EU market
Recyclability Rate Assessment	• Quantitative Assessment: % of recyclable content • Based on the collection and sorting infrastructures, on the packaging design, and on the end-market • Country-specific

RecyClass

Recyclability Rate Assessment

RecyClass



Collection and local infrastructure

Sortability

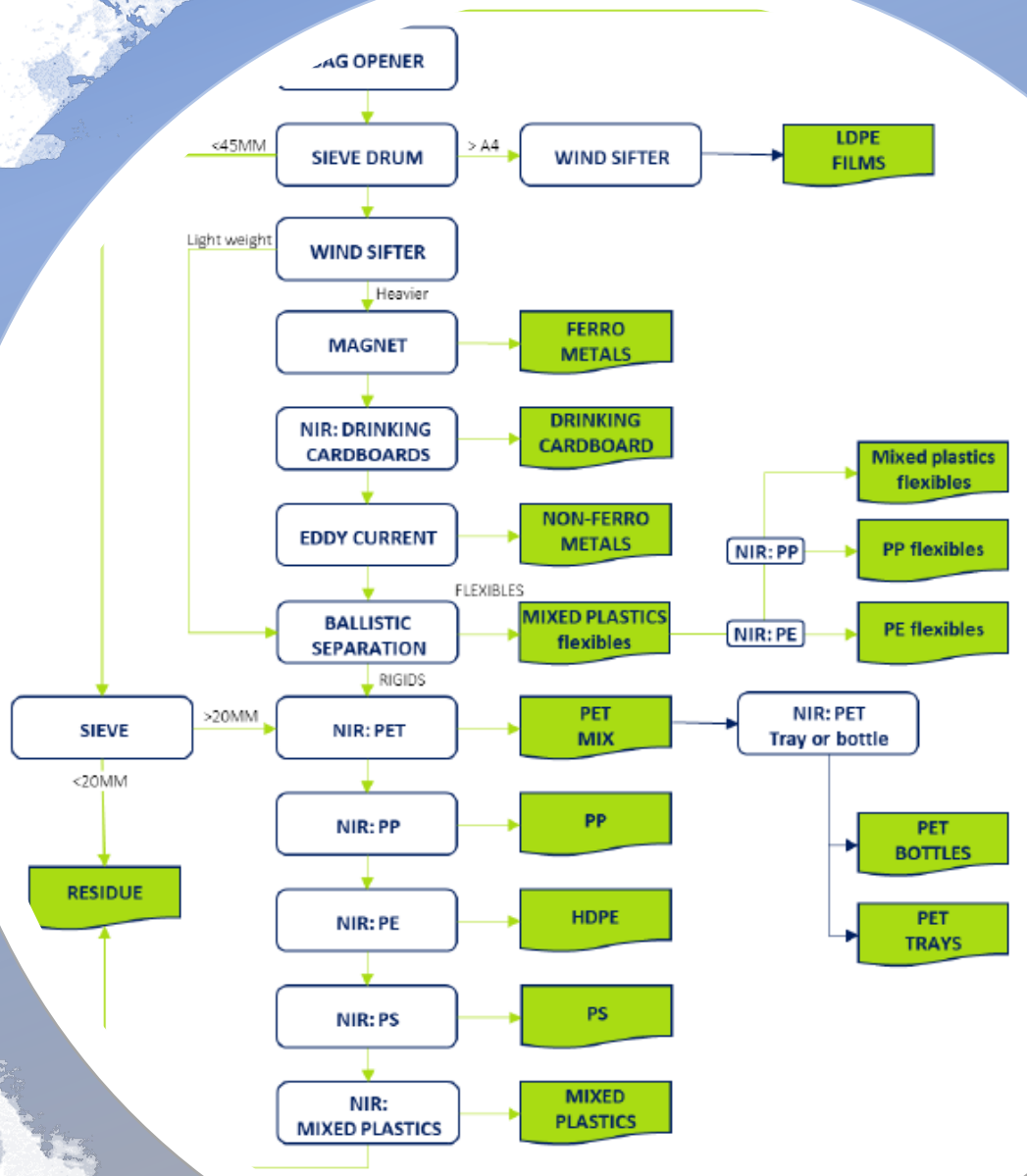
Recyclability (DfR)

End market: ability in replacing virgin plastic in high value applications

Sorting Protocol

Mandatory for:

- Large labels (covering > 50% of the surface) made from a different polymer
- Full body sleeves
- Perforated full body sleeves
- Multi-layer structures (excluding PE/PP EVOH)
- Metallisation (excluding on the inside/in the middle layer)
- Non NIR detectable colours (also when dark colours used for internal layers)
- Different types of plastic used on front and back sides.
- Different types of plastic (rigids and flexibles) used in the package.



...ew of a sorting installation for lightweight packaging

RecyClass

Disqualification Criteria

- These criteria render the packaging not recyclable per definition
- A multiplying factor equal to 0 is used in the formula.
- The recyclability rate results in **0%**.
- The class ranking results in a F class.

Annex II. Design for recycling incompatibilities: Disqualification criteria

	Recyclable plastic	Disqualification (separable and inseparable components)
PET Bottles	PET share PO share	PVC/PVDC Carbon black Opaque, fluorescence or metallic colours Bio-/oxo-/photodegradable additives Nanocomposites Aluminium layer All metal parts
PET Thermoforms (only clear)	PET share	PVC/PVDC Carbon black Opaque, metallic, and any other transparent colour Bio- or oxo-degradable additives Nanocomposites Aluminium layer Metal parts
HDPE & PP Rigids	HDPE share PP share	PVC/PVDC Additives changing the density to more than 1 g/cm^3 Non-NIR detectable colours Bio- or oxo-degradable additives Aluminium layer Metal parts
PE & PP Films	PE share PP share	PVC/PVDC PET Additives changing the density to more than 1 g/cm^3 Non-NIR detectable colours Bio- or oxo-degradable additives Aluminium layer Metal parts

RecyClass

Downgrading Criteria

- Light downgrading

Reduce the recyclability class by 1

Reduce the recyclability rate by weight or by 15%

- Strong downgrading

Reduce the recyclability class by 3

Reduce the recyclability rate by 45%

RecyClass

Type of package	Recyclable plastic	Light Downgrading
PET Bottles	PET share PO share	Carbon plasma-coating; PA multilayer with <5wt% PA and no tie layers; PGA multilayer PTN alloy. EVOH multilayer with < 3 wt%, EVOH and no tie layers (only for coloured bottles) UV stabilizers, AA blockers, oxygen scavengers, optical brighteners Any component in foamed PET and PETG, EPS, LDPET, floatable silicone < 0.95 g/cm^3 Lightly metallized labels Paper labels without fibre loss Hot-melts adhesives Water/alkali soluble/releasable adhesives (non-recyclable per definition) Non-toxic inks (non-recyclable per definition)

Type of package	Recyclable plastic	Strong Downgrading
PET Bottles	PET share PO share	Any part made by PLA, PS, PETG PA multilayer with >5wt% PA or tie layers Monolayer PA blend EVOH (only for clear/light blue bottles) Any material and blend with density higher than 1 g/cm^3 (highly filled PE, silicone, etc.) Any non-detaching or welded component Any metallized material Paper labels with fibre loss Heavy printed sleeves Non water/alkali soluble/releasable adhesives for labels/sleeves Toxic/hazardous or bleeding inks any direct printing (apart production and expiry date)

RecyClass Accredited Certification Bodies

Aimplas
Spain

Circular Analytics
Austria

Plastship
Germany

Recoup
UK

Redilo
Switzerland

Suez Cirpark
EU 27+3

Veolia PET Germany GmbH
Sweden, Norway, Finland, Denmark

RecyClass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RecyClass

RECYCLABILITY RATE CERTIFICATE

THIS CERTIFIES THAT

Brand and product name

Company name

has successfully been certified by RecyClass:

The package scored

95 %

recyclability. The value represents the amount of material that will be effectively recycled during a recycling process.

A B C D E F

This certificate is based on the Audit Report n° XXX-XXX-XX

The Certificate and its results are valid for name of country

Valid until 01/01/2025 *

Name of Auditor & Signature

*Validity conditions may be found in the Audit Report

Thank you
for your attention

www.recyclass.eu
fabrizio.digregorio@plasticsrecyclers.eu

RecyClass

Recyclass Unwrapped Webinar

High-quality recyclates and high-quality recycling: key features for tubes application

November 17th 2020

Joseph Lemoine
Sustainable Packaging Engineer
joseph.lemoine@albea-group.com

ALBÉA

Table of contents

ABOUT ALBÉA

About Albéa

At a glance

About Albéa

CSR strategy

OBJECTIVES		PRIORITY AREAS
EARNING YOUR TRUST, EVERY DAY	This first objective includes the fundamentals of our business, the standards and methods without which we cannot perform our jobs or produce. These are core subjects of our corporate responsibility. They require daily vigilance to ensure that our quality, safety and ethical standards are beyond reproach.	HEALTH & SECURITY PRODUCT QUALITY HUMAN RIGHTS BUSINESS ETHICS & COMPLIANCE
DELIVERING SUSTAINABLE GROWTH	This objective is dedicated to the women and men within our company or business ecosystem who inspire us to act responsibly and who work to see that the responsible packaging industry grows to the point that it can overcome its challenges and create sustainable growth for all.	CUSTOMER EXPERIENCE EMPLOYEE ENGAGEMENT SUPPLIER RELATIONSHIPS
BUILDING A POSITIVE FUTURE	The last objective regroups urgent human, economic and technical issues. They are challenges not only for Albéa but for the entire sector, and together, we must address them now.	ABILITY TO INNOVATE RESPONSIBLE PACKAGING SKILLS & EMPLOYABILITY CLIMATE CHANGE

About Albéa

Responsible packaging

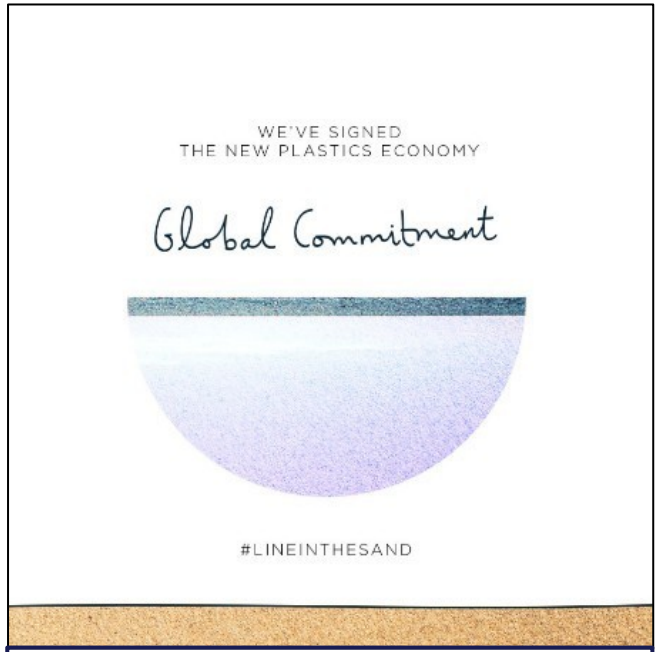
REDUCE

REUSE

RECYCLE

PCR

BIO-BASED



By 2025:

- 100% recyclable, reusable or compostable packaging
- 10% post-consumer recycled (PCR) content

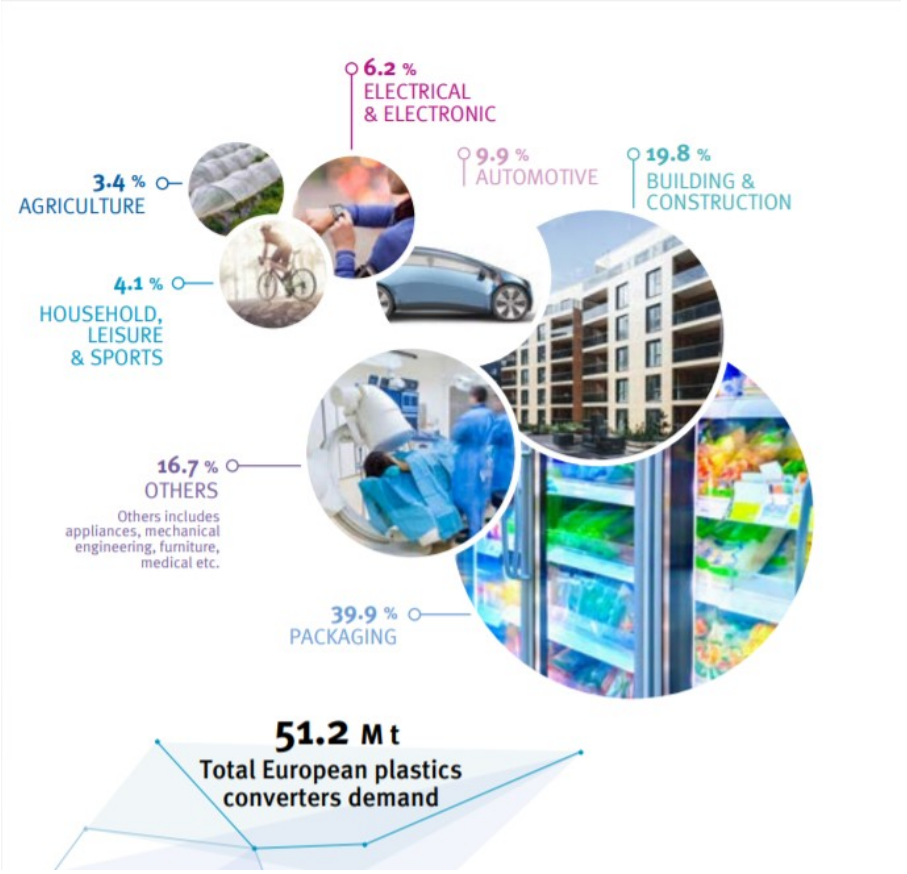
INTRODUCING PCR IN OUR PRODUCT

Introducing PCR in our products

Commitments of the value chain

- PCR is generated by households or commercial, industrial and institutional facilities **in their role as end-users of a product that can no longer be used for its initial intended purpose**.

- The use of PCR in packaging sector is key to allow circularity of plastics.
- Several cosmetic players have committed on PCR integration in their products **up to 50%**.
- The available supply of high-quality material makes it favorable to switch from fossil-based PET to PCR PET
- Polyolefins raise more challenges and Albéa has committed to a **10% PCR integration by 2025**.



Plastics Fact Sheet 2019 | Plastics Europe

Introducing PCR in our products

Challenges for PCR HDPE/PP for tubes application

Safety

The cosmetics sector aligns on food expectations for the use of PCR in packaging: EFSA positive opinion or FDA non-objection letter are minimal requirements.

Supply

Supplies are limited to PCR from recycled dairy bottles. Other available sourcing do not meet EFSA or FDA requirements.

Aesthetic and technical limits

Grey colors, spots, inclusions can represent marketing bottlenecks. Some structures may not meet the technical requirements of packaging when using PCR.

Albéa is actively working to leverage PCR solutions and already offers a wide range of products.

Desin for recycling remains essential in order to foster the circular economy for plastics

FOSTERING HIGH-QUALITY RECYCLING

Fostering high-quality recycling

Why is design for recycling primordial?

1. Contribute to the circular economy for plastics

Putting products on the market that at its end of life will be reclaimed and recycled into new high-end applications, therefore increasing the supply of high-quality PCR on the market.

Recycling plastic waste | Veolia

Fostering high-quality recycling

Why is design for recycling primordial?

2. Delived our commitments

Albéa has signed the New Plastics Economy Global Commitment and committed to ambitious objectives to tackle plastic pollution.

By 2025:

- 100% recyclable, reusable or compostable packaging
- 10% post-consumer recycled content

Fostering high-quality recycling

Why is design for recycling primordial?

3. Comply with the upcoming regulatory framework

The European commission has set ambitious objectives for plastic packaging waste management which will most likely turn into national regulatory frameworks.

DIRECTIVE (EU) 2018/851 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 30 May 2018

amending Directive 2008/98/EC on waste

by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55 % by weight;

by 2030, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 60 % by weight;

by 2035, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 65 % by weight.';

LOI ANTI-GASPILLAGE pour une économie circulaire

Decrees to be published for:

- Recyling and reuse objectives for 2021-2025
- 2040 strategy on reduction, reuse and recycling of single use plastics

Fostering high-quality recycling

Design for recycling guidelines and certifications

- Many organisations have published guidelines and certification methods, making it challenging for the value chain to leverage consistent innovative efforts towards high-quality recycling of plastic packaging.
- There is a need for harmonization :
  - Design guidelines
  - Test protocols on sorting and reprocessing
  - **Certification and scoring methodology**
  - Standardized logo and marking

Fostering high-quality recycling

Working towards increased recyclability with Recyclass methodology

	PE + PP proportion by weight (excluding inks, varnishes and EVOH)	DfR incompatibilities (class downgrading must not be summed, only the highest applies)					Restitution rate	Final rank
		Material	Barrier	Color	Direct printing	Closure		
1	70 to 90%	PE (HD/MD LD/LLD)	EVOH > 1% with any other tie	Any light color	Any other direct printing	PP > 10%	90 to 95%	RecyClass

- 2 ranks

- 2 ranks

- 1 rank

Fostering high-quality recycling

Working towards increased recyclability with Recyclass methodology

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2	90 to 95%	PE (HD/MD LD/LLD)	EVOH > 1% with any other tie	Any light color	Any other direct printing	PP > 10%	90 to 95%	E RecyClass

- 1 rank

- 2 ranks

- 1 rank

Fostering high-quality recycling

Working towards increased recyclability with Recyclass methodology

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3	> 95%	PE (HD/MD LD/LLD)	EVOH < 6% with PE g-MAH tie >3%	Any light color	Any other direct printing	PP > 10%	90 to 95%	D RecyClass

No rank loss

- 2 ranks

- 1 rank

Fostering high-quality recycling

Working towards increased recyclability with Recyclass methodology

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No rank loss

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Fostering high-quality recycling

Working towards increased recyclability with Recyclass methodology

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5	> 95%	PE (HD/MD LD/LLD)	EVOH < 6% with PE g-MAH tie >3%	Any light color	Laser marked Production or expiry date	PE	> 95%	A RecyClass

Fostering high-quality recycling

Greenleaf gen. 2 technology: a success story

‘Greenleaf TM 2nd Generation’ tube by Albéa approved by RecyClass

WEDNESDAY, 02 SEPTEMBER 2020

RecyClass™

The findings of an independent laboratory testing of ‘GreenleafTM 2nd Generation’ technology show that it is fully compatible with the recycling stream of HDPE containers as it does not pose any recyclability issues. This technology is used in packaging for oral care and pharmaceutical goods.

CONCLUSIONS

Conclusions

Towards a circular economy for plastic packaging

- PCR integration is a key topic to be addressed to meet commitments and tackle plastic pollution. High-quality is required to meet customers and consumers demand, which raises the need for and efficient recycling of plastic packaging.
- Design for recycling represents important efforts, both regarding technical and economic feasibility and requires high reactivity in a context of strong commitments.
- This will require fundamental changes in terms of product differentiation and the entire value chain must be aligned to make the appropriate market changes for consumer acceptation.

- Some success stories have demonstrated that it **is** possible and Albéa is confident about the future of plastic packaging recycling.

THANK YOU!

FOLLOW US

www.albea-group.com

RecyClass Unwrapped

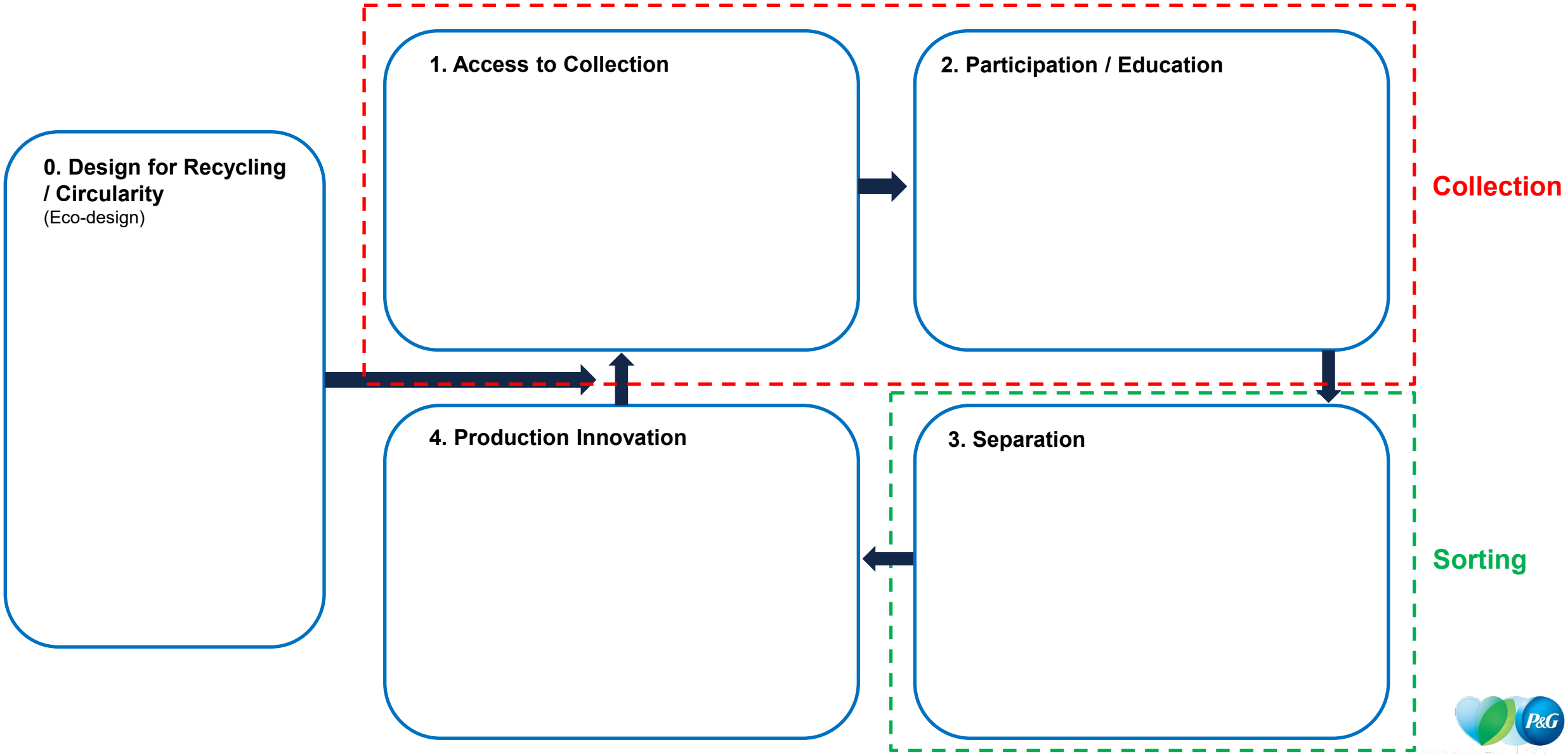
Use of recyclates in high-end packaging applications

Gian De Belder

P&G, Packaging R&D –Sustainability

Plastic Recyclers Europe – Recyclass Platform
Petcore Europe - Opaque and Functional Bottles (formerly ODR)
Ceflex and AEPW EU member
EU Plastics Recycling Ambassador 19/20
HolyGrail 2.0: chairman Leadership Team AIM

Packaging Strategy for Circular Economy



Packaging Strategy for Circular Economy

LOW RECYCLING RATES!

0. Design for Recycling / Circularity
(Eco-design)

APR

RecyClass PLASTICS RECYCLERS EUROPE

RECOUP

suez circpack EXPERTISE & CERTIFICATION

SPC

petcore Europe

KIDV Recyclecheck

1. Access to Collection

THE RECYCLING PARTNERSHIP

CLOSED LOOP fund

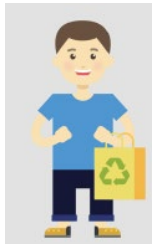
ALLIANCE TO END PLASTIC WASTE

getton

2. Participation / Education

Kennisinstituut Duurzaam Verpakken

BLISTER 1 BIJ PLASTIC AFVAL



How2Recycle

OPRL THE ON-PACK RECYCLING LABEL

27 PET bottles → 1 fleece sweater

getton

Expra

RecyClass PLASTICS RECYCLERS EUROPE

Collection

3. Separation

PIONEER PROJECT

AIM EUROPEAN BRANDS ASSOCIATION

THE RECYCLING PARTNERSHIP

RecyClass PLASTICS RECYCLERS EUROPE

Sorting

4. Production Innovation
(2x PCR)

RecyClass PLASTICS RECYCLERS EUROPE

CEFLEX

petcore Europe

PCEP POLYOLEFIN Circular Economy Platform

PURECYCLE TECHNOLOGIES

CIRCULAR PLASTICS ALLIANCE

SPC

CosPaTox

P&G

BIGIMARC

What's needed for all pillars?

HARMONIZATION!

1. Global/Regional aligned definitions of "recyclable", linked to DfR
   → Recyclability methodology RecyClass
2. More and ideally uniform collection (collect all) → EPR/CPA/…
3. Better consumer education / level-play field (RecyClass' green claims TF, EU green deal)
4. Much better sorting

   → HG2.0
5. Definitions, Quality Criteria for "recycled resin" linked to end-applications, certification schemes….

   → CosPaTox

Needs for a packaging CE = EU harmonized principles

0.

DESIGN-FOR-RECYCLING
(Eco-design)

→ Scientific-based & Industry-aligned REGIONAL/GLOBAL guidelines is a must!

RecyClass™
PLASTICS RECYCLERS EUROPE

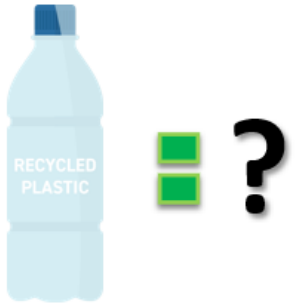
40+ members

&

Growing!

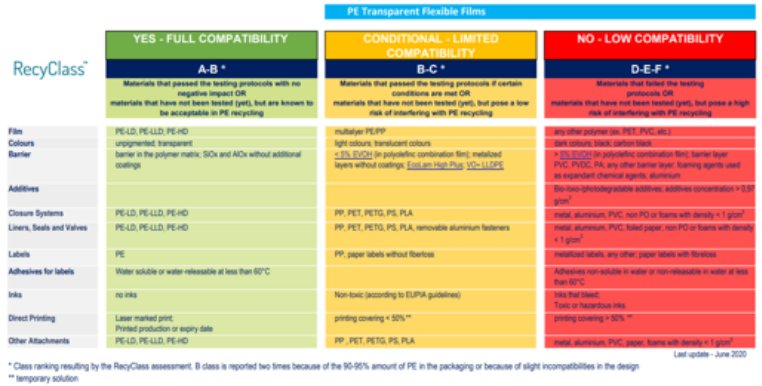
RecyClass pillars

Recyclability Evaluation Protocols



- **Test** on recycled product with and without innovation.
- Comparison of properties
- **Technology/Product Approval**

Design for Recycling Guidelines



- The DfR Guidelines are transposed to the tool.
- The overall recyclability of the finished package can be assessed.

RecyClass™

RecyClass Tool

- Recyclability Self-Assessment
- Recyclability Expert-checked
- **Recyclability Certification**

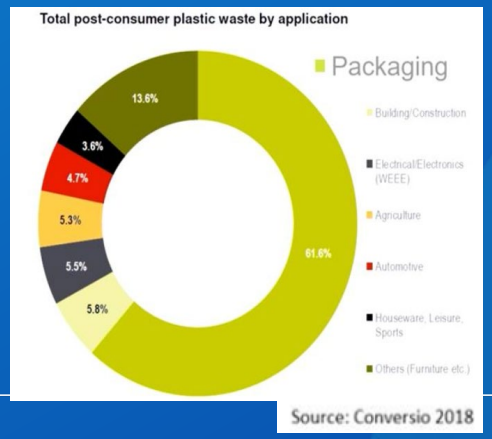
P&G 1st FMCG joining Recyclass Platform !!

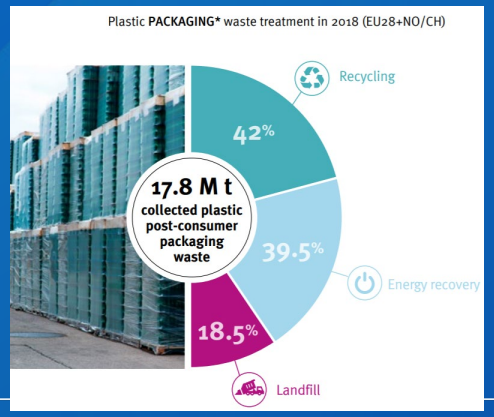
Why do we need more high quality recyclates?

CE targets & end markets:

- CPA/Pledge: 10MM recycled resin (packaging as high-end outlet)
- EU targets: 55% effective recycled, all packaging recyclable/reusable/compostable
- National targets/quota/mandatory use of PCR/
- Voluntary actions: Global Commitments, Regional and Country-specific pacts
- Brand owner's commitments
  P&G: reduce virgin petro-based plastics by 50% = 300kty

Current landscape:





- Needed: Maximize our resources through optimal sorting and recycling and use back into high end applications (closed loops, avoid downgrading!)

What's needed & How to do this?

- Pack material recycled resin requirements (sector dependent)
- Quality standards per application vs Questionnaires / Performance testing (supplier/grade testing)
- Full transparency on sourcing (incl feedstock supply chain)

2 case studies:

- CosPaTox
- HolyGrail 2.0

CosPaTox: Cosmetic Packaging Toxicology

Missing: Official, toxicologically reviewed PCR standards for packaging (only exists for food)

→ Develop more streams than just food vs non-food grades

Focus on SAFE standards and approval rules for:

- Detergent grade
- Cosmetic grades:
  - rinse-off grade
  - leave on grade applications
- …

Toxicological expertise through cross-value chain partners (EU-wide consortium):

- Brand owners
- Academia
- Recyclers and converts
- Many others

PIONEERING DIGITAL WATERMARKS FOR SMART PACKAGING RECYCLING IN THE EU

Digital Watermarks Initiative HolyGrail 2.0

PRE conference

– Nov 2019

$\sum = 300$

Intelligent Packaging Through Digital Watermarks

Artwork

- Imperceptible codes, the size of a postage stamp, covering the surface of a consumer goods packaging

- Able to carry a wide range of attributes (e.g. manufacturer, SKU, type of plastics used and composition for multilayer objects, food vs. non-food usage)

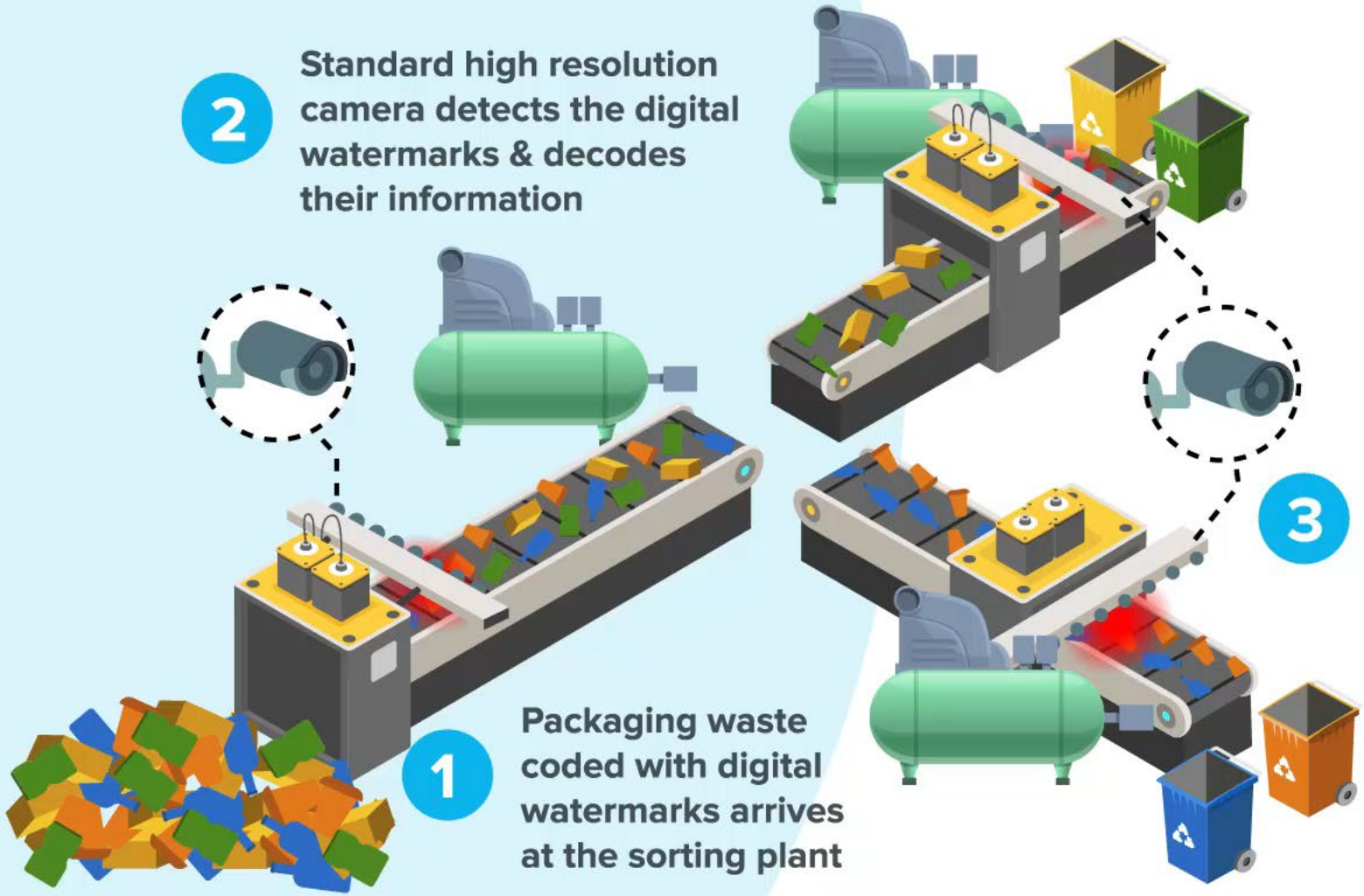
Looks Like This

Performs Like This

Images courtesy of P&G / Digimarc

SMART PACKAGING SORTING FOR A CIRCULAR ECONOMY

HolyGrail 2.0
Intelligent Sorting



2 Standard high resolution camera detects the digital watermarks & decodes their information

1 Packaging waste coded with digital watermarks arrives at the sorting plant

3 Packaging waste is sorted into different streams for recycling (e.g. food vs non-food)

HOLY GRAIL 2.0

MEMBERSHIP

AIM® EUROPEAN BRANDS ASSOCIATION

Holy Grail 2.0 Intelligent Sorting

Thank You!

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RecyClass

RecyClass Unwrapped

Recyclability Methodology

Questions & Answers session

Use the Q&A box on the top-right corner of your screen

RecyClass

RecyClass Unwrapped
Recyclability Methodology

Thank you for your participation

Next webinar:

Recyclability Evaluation Protocols & Technology Approvals
November 30, 15-16h

More information to follow
www.recyclass.eu