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Rely on us.
Recyclability solutions for printed systems
Flint Group
Pierre Dogliani, R&D Innovation Manager, Narrow Web
FINAT Technical Seminar 2022
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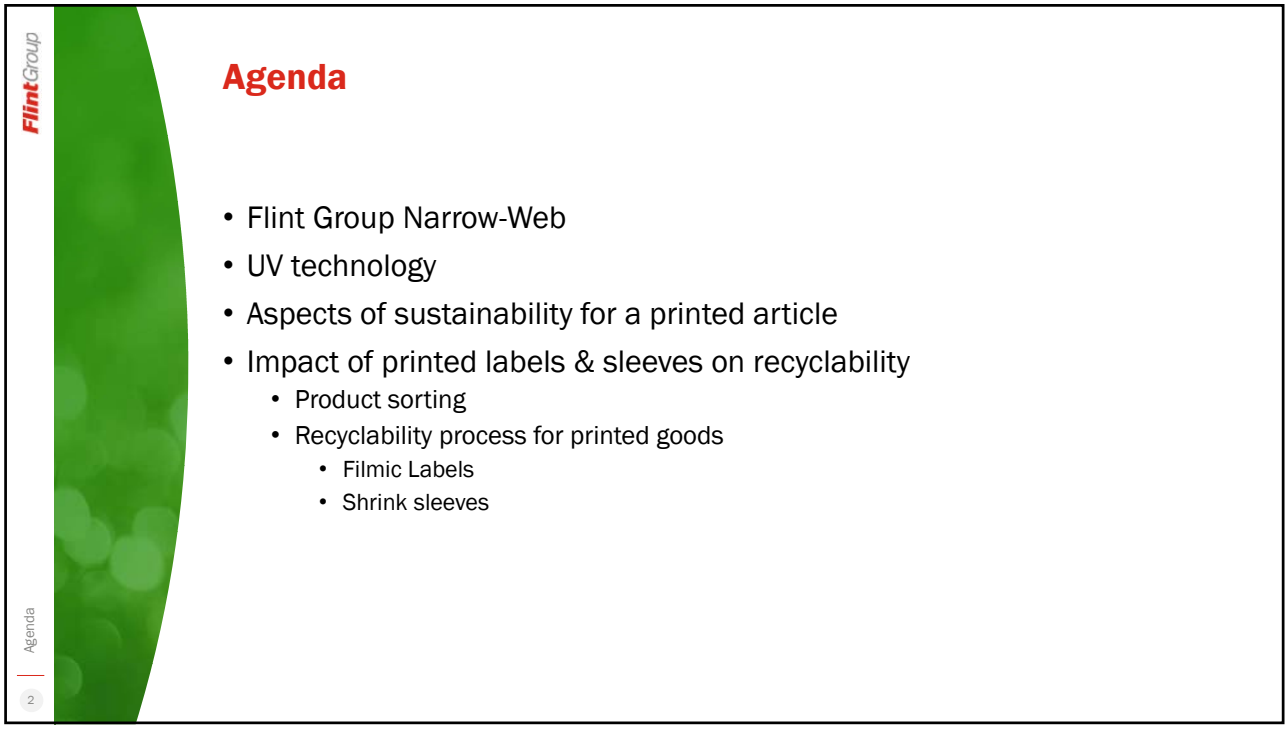
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Agenda
• Flint Group Narrow-Web
• UV technology
• Aspects of sustainability for a printed article
• Impact of printed labels & sleeves on recyclability
• Product sorting
• Recyclability process for printed goods
• Filmic Labels
• Shrink sleeves
Agenda
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Flint Group Packaging
Narrow-web
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FlintGroup Packaging
FlintGroup Narrow Web
Sustainable
Flint Group NW
4

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Basis of UV technology

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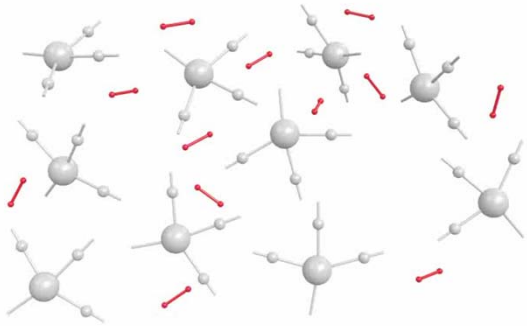
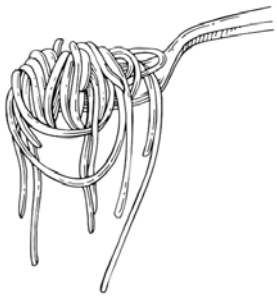
Basis of UV Technology





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Aspects of sustainability for a printed article
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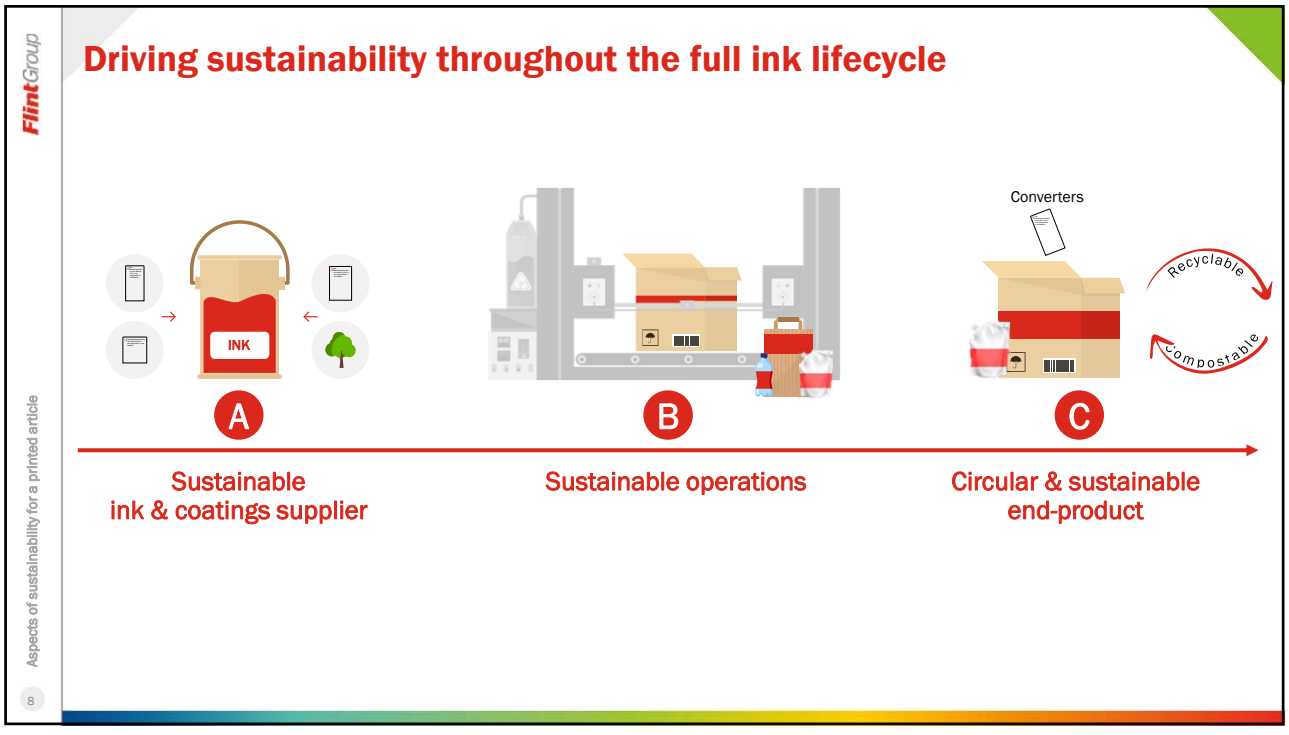
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Driving sustainability throughout the full ink lifecycle
INK
A
B
Converters
C
Recyclable
Compostable
Sustainable
ink & coatings supplier
Sustainable operations
Circular & sustainable
end-product
Aspects of sustainability for a printed article
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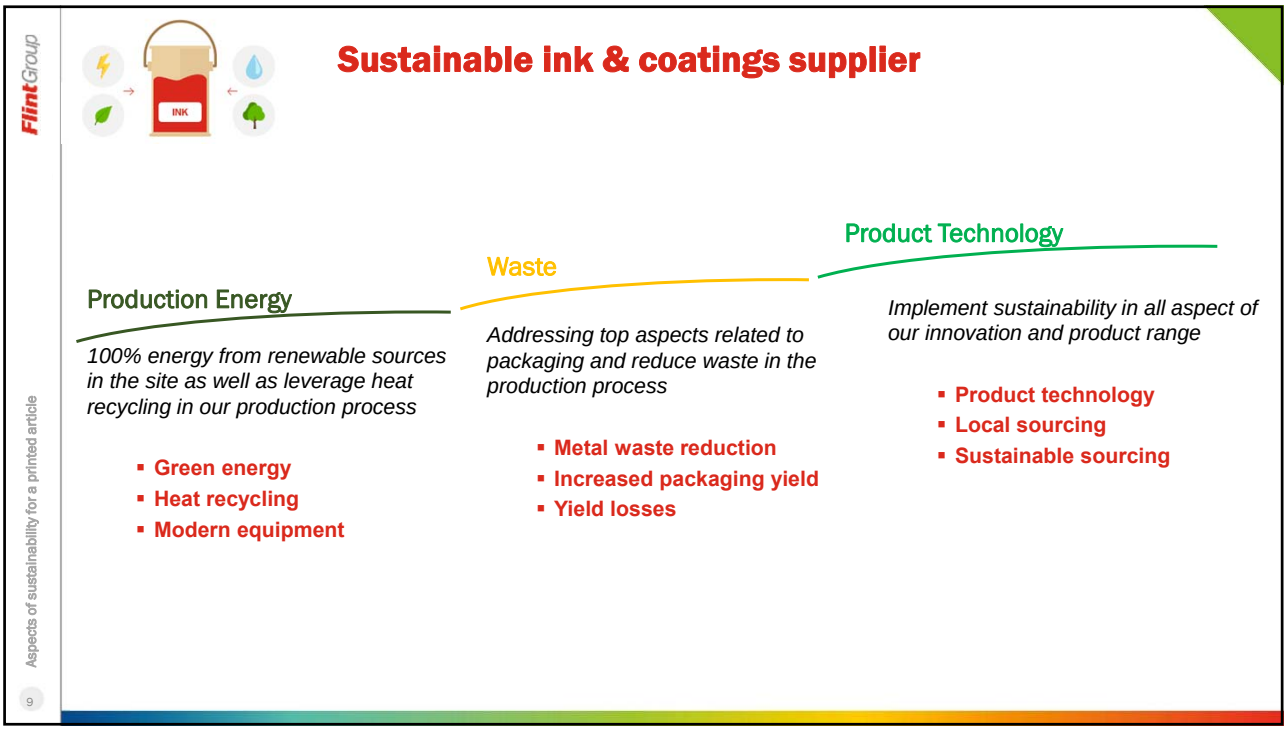
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Sustainable ink & coatings supplier
INK
Production Energy
100% energy from renewable sources in the site as well as leverage heat recycling in our production process
Green energy
Heat recycling
Modern equipment
Waste
Addressing top aspects related to packaging and reduce waste in the production process
Metal waste reduction
Increased packaging yield
Yield losses
Product Technology
Implement sustainability in all aspect of our innovation and product range
Product technology
Local sourcing
Sustainable sourcing
Aspects of sustainability for a printed article
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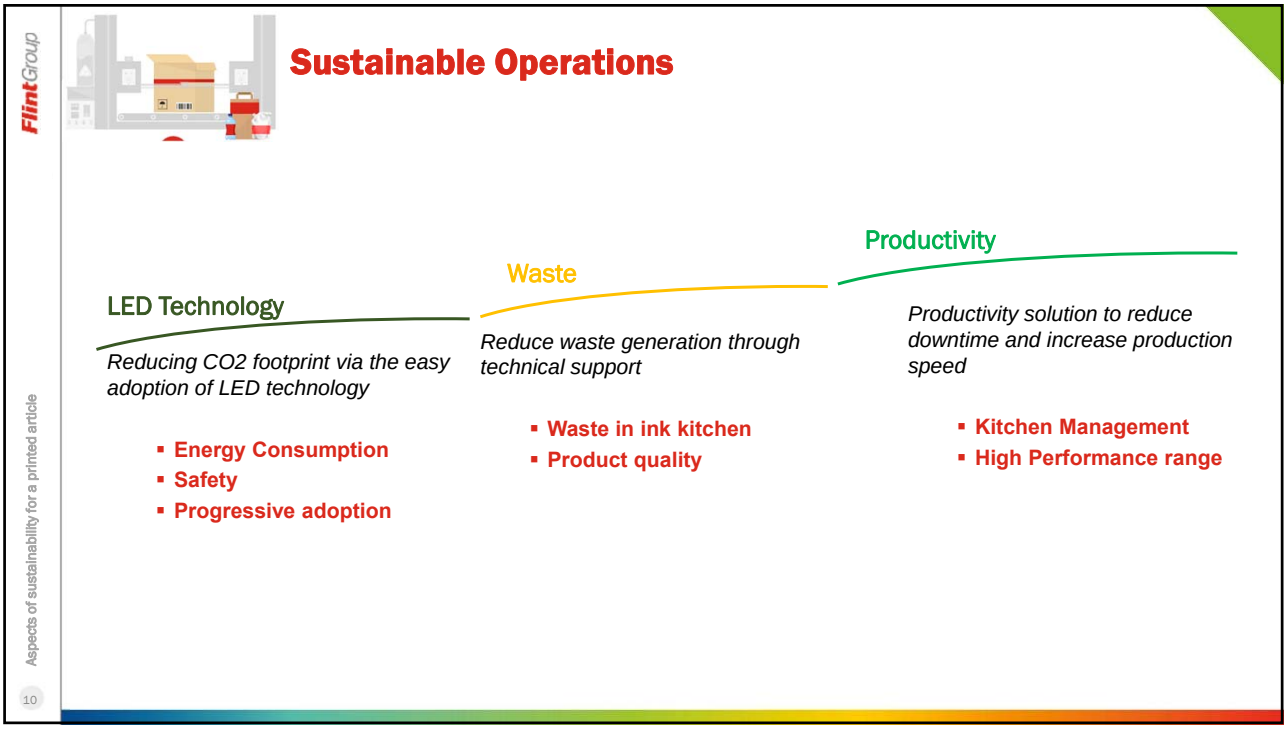
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Sustainable Operations
LED Technology
Reducing CO2 footprint via the easy adoption of LED technology
Energy Consumption
Safety
Progressive adoption
Waste
Reduce waste generation through technical support
Waste in ink kitchen
Product quality
Productivity
Productivity solution to reduce downtime and increase production speed
Kitchen Management
High Performance range
Aspects of sustainability for a printed article
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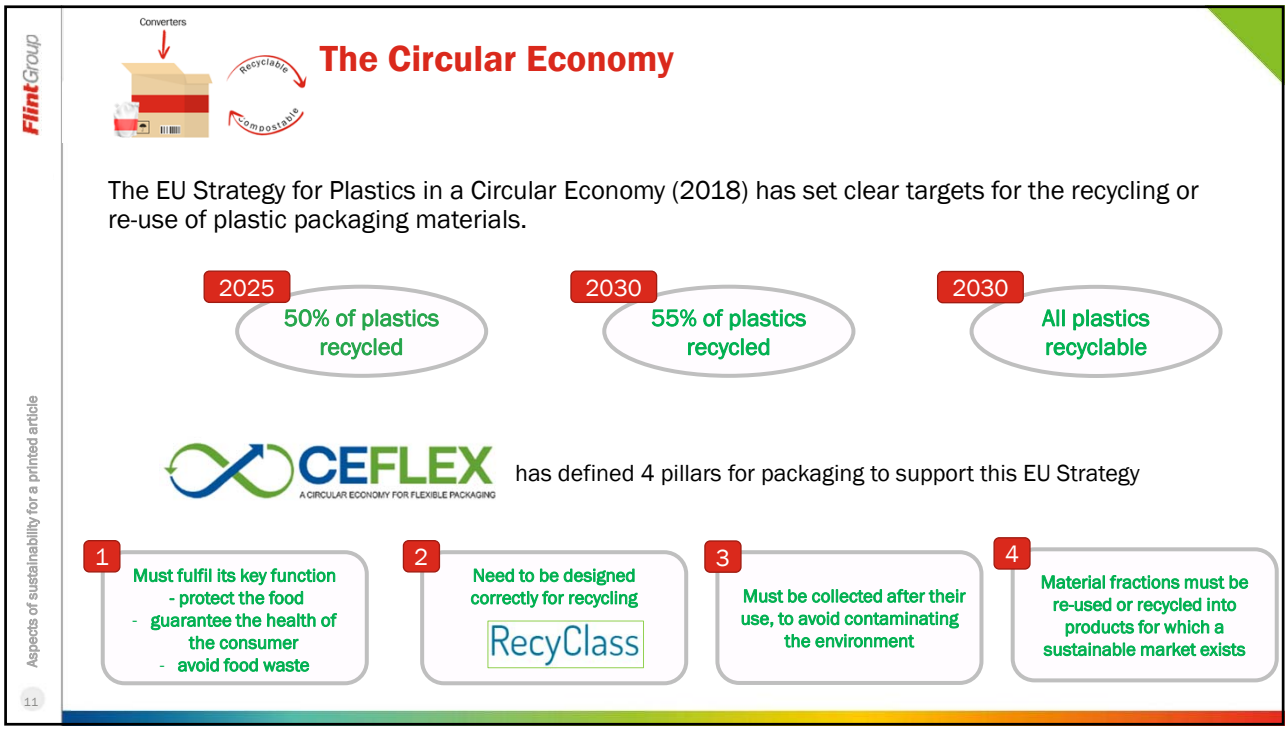
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Converters
Recyclable
Compostable
The Circular Economy
The EU Strategy for Plastics in a Circular Economy (2018) has set clear targets for the recycling or re-use of plastic packaging materials.
2025
50% of plastics recycled
2030
55% of plastics recycled
2030
All plastics recyclable
CEFLEX
A CIRCULAR ECONOMY FOR FLEXIBLE PACKAGING
has defined 4 pillars for packaging to support this EU Strategy
1
Must fulfil its key function
- protect the food
- guarantee the health of the consumer
- avoid food waste
2
Need to be designed correctly for recycling
RecyClass
3
Must be collected after their use, to avoid contaminating the environment
4
Material fractions must be re-used or recycled into products for which a sustainable market exists
Aspects of sustainability for a printed article
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Circular & Sustainable end-product
How can a printed good help increasing circularity & sustainability of the end product?
Biodegradable
Compostable
Recyclable
Aspects of sustainability for a printed article
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Definition of recyclability of plastic goods

APR (Association of Plastics Recyclers) and PRE (Plastics Recyclers Europe) are describing recyclability through 4 pillars plastics must met:

The product must be made **of plastic that is collected** for recycling, has market value, and/or is supported by a legislatively mandated program.

The product must **be sorted and aggregated into defined streams** for recycling processes.

The product **can be processed and reclaimed/recycled** with commercial recycling processes.

The recycled plastic becomes a raw material that **is used in the production of new products**.

https://recyclass.eu/recyclability/definition/

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Impact of printed labels & sleeves on recyclability

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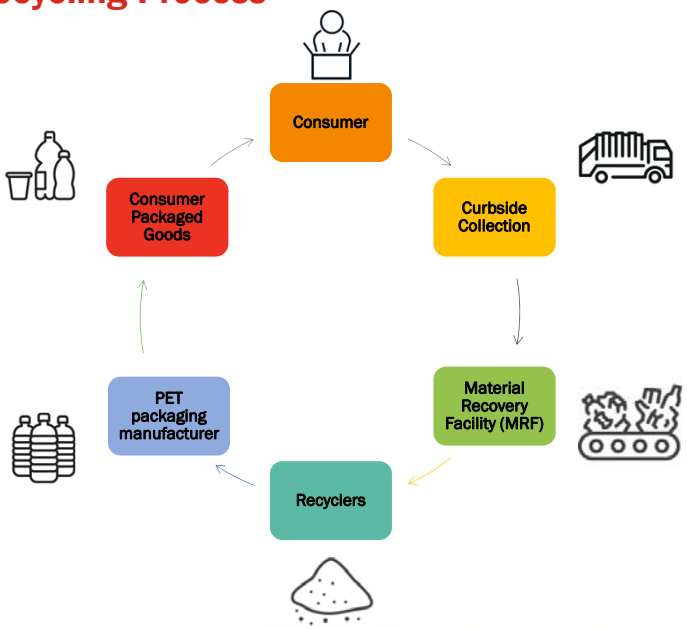
PET Bottle Recycling Process



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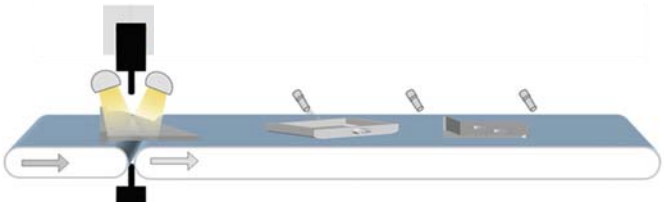
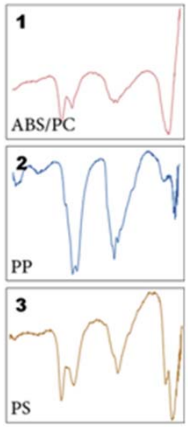
Plastic sorting

- How does plastic sorting work? Near Infra-Red (NIR) technology





https://www.sciencedirect.com/science/article/pii/S0959652619336029

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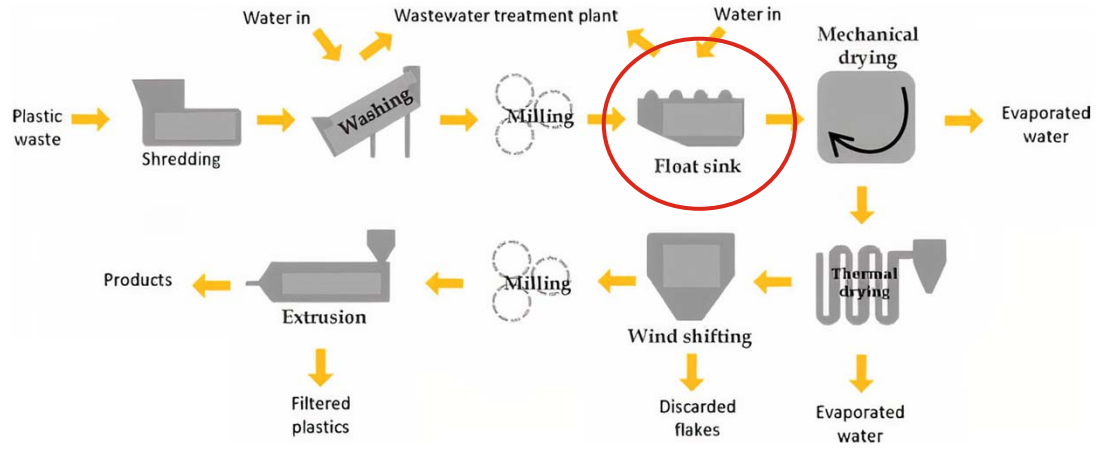
Generic Process flow of a recycling process



Recent Advances in Pre-Treatment of Plastic Packaging Waste,
Rita Kol, Martijn Roosen, Sibel Ügdüler, Kevin M. Van Geem, Kim Ragaert, Dimitris S. Achilias and Steven De Meester

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Sink-float system

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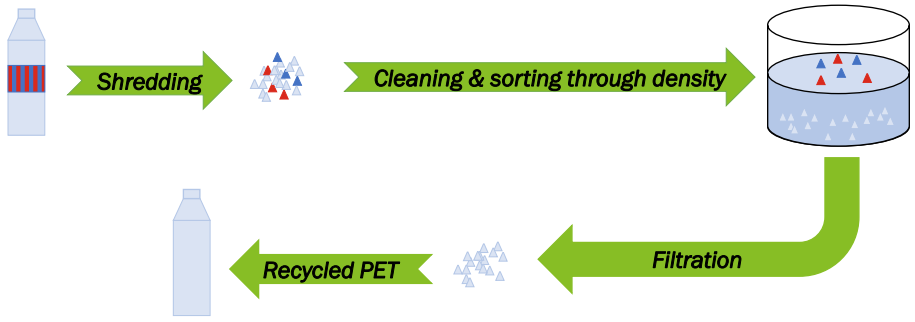
Sink-float recycling process

- Designed for cases where the label material is different to the bottle material



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Design recommendation for Transparent PET bottles (clear and coloured)

Based on Recyclass design for recycling guidelines & Flint Group recommendation

- Use UV Food-contact material ink systems
- Use recyclability-enabler varnish, allowing standard Food Contact Material (FCM) ink ranges to pass the label bleeding QT 507 protocol
- When possible, reduce label coverage
- Avoid metallization

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Impact of printed labels & sleeves on recyclability

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De-inking system

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Impact of printed labels & sleeves on recyclability

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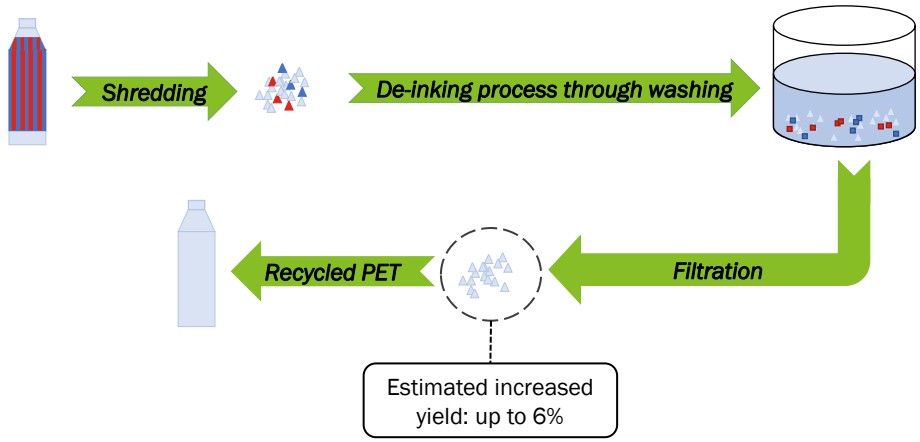
De-inking recycling process



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De-inking technology

- De-inking adopted and recognized in USA (APR recognition).
- No recognition of the technology in Europe yet, but high interest of brand-owners and converters.
- Need to develop and align on a safe protocol, that would allow de-inking to be used throughout the value chain with no or little changes to the current recycling state of the art.

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Conclusion

- Sustainability of an ink system is more than its raw materials
- A printed packaging can and must be designed for recyclability to reach the targets set-up by the EU
- Specifically designed solution are existing to increase the recyclability yield of the printed articles

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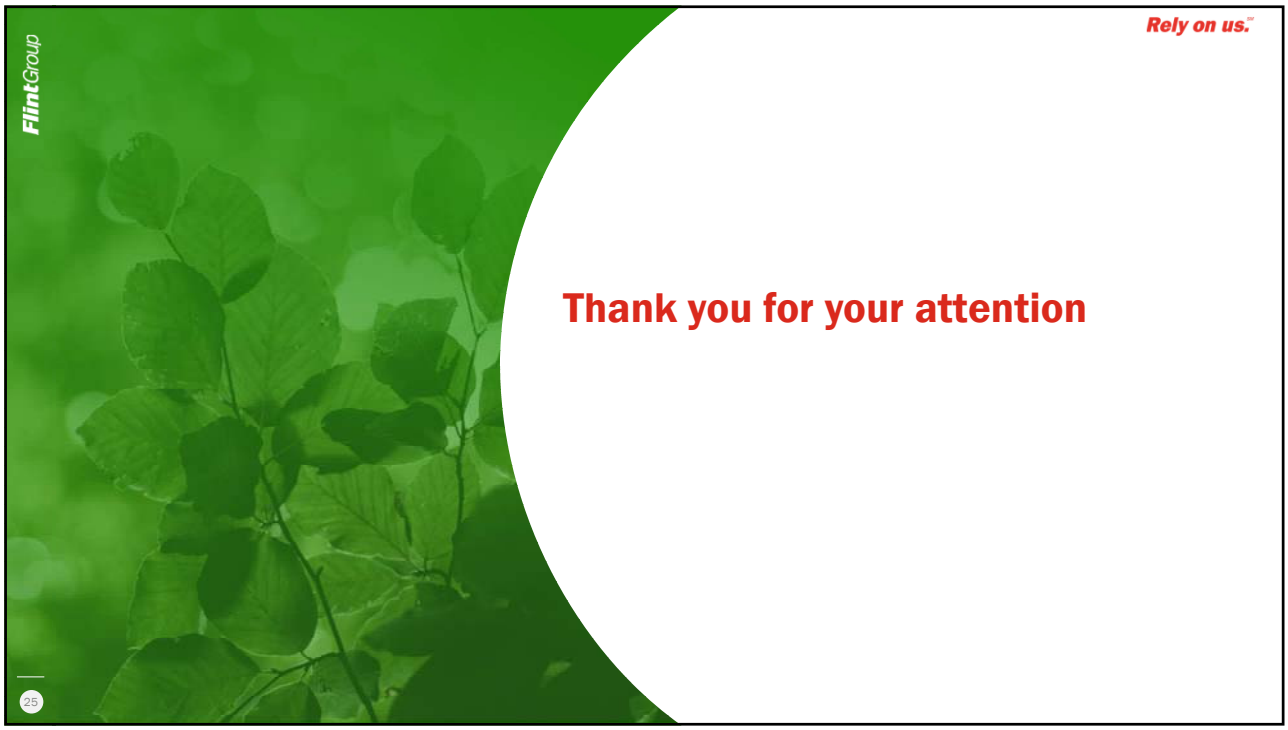
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Thank you for your attention
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