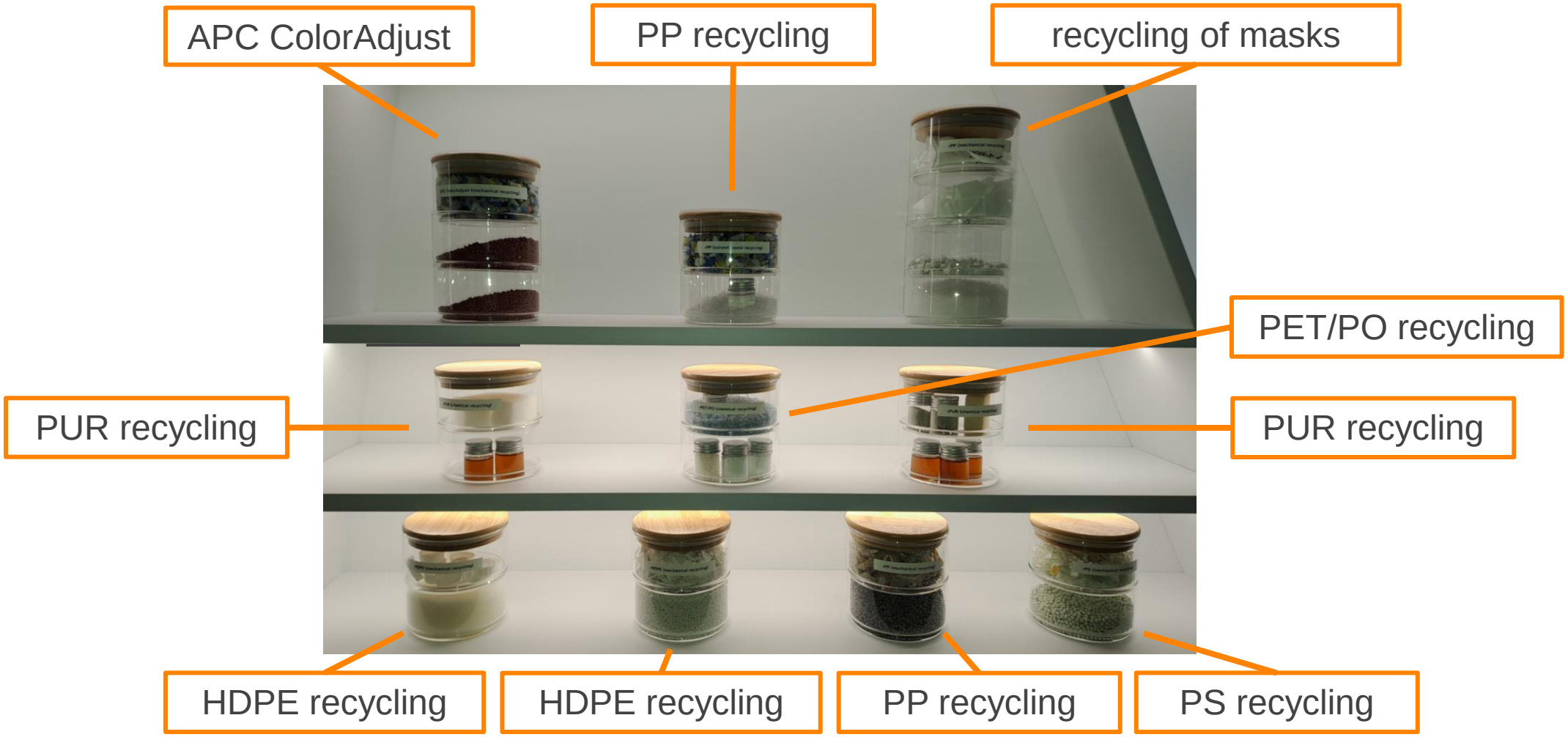
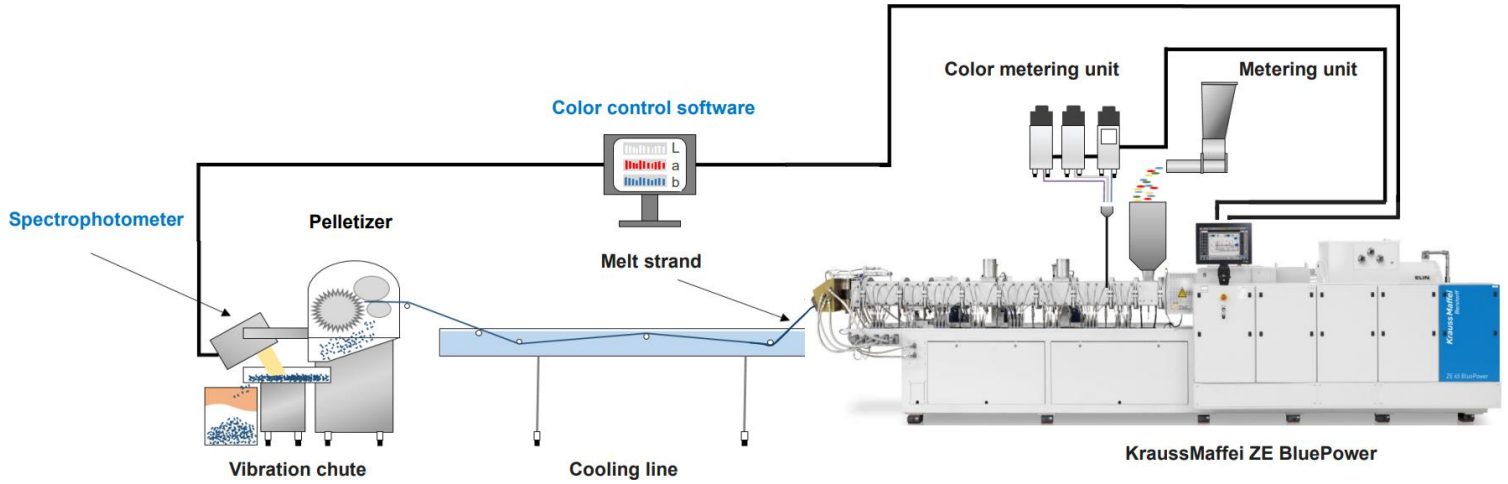
Overview


APC ColorAdjust
PP recycling
recycling of masks
PET/PO recycling
PUR recycling
PUR recycling
HDPE recycling
HDPE recycling
PP recycling
PS recycling

APC ColorAdjust

- **Automatic color measurements** and control for recyclates via **spectrophotometer**
- The smallest color deviations are detected
- High product quality and little loss



Recycling of PP

Chemical recycling

purity solventLine

Input	Flakes/foils waste of PP
Output	rPP

Customer: Purecycle

Process steps:

1. Melting and filtering (Ettlinger filter) of the PP flakes/films in **ZE BP**
2. Transfer to **reactor** for further processing
   a. Incorporation of **solvent (butane)** to extract color and odor
   b. Settling of large particles
   c. Smaller particles and impurities are filtered out
   d. Further purification through columns
3. Separation of polymer and solvent in **downstream KE**
4. Final extrusion and granulation
5. Parallel processing of the waste stream in ZE BP

Recycling of FFP2 masks

Mechanical recycling

purity compoundingLine

Input: FFP2 masks	2. step: pelletizing
1. step: shredding	**Output:** rPP

- Shredding the masks and removing the metal brackets
- Use of the **KAHL** mill and pelletizing of the shreds
- Regranulation of the pellets on the Edelweiss line
- Addition of **fillers and reinforcing materials** to make them suitable for transport boxes

Youtube video: https://www.youtube.com/watch?v=oDCh6ZgD-fU

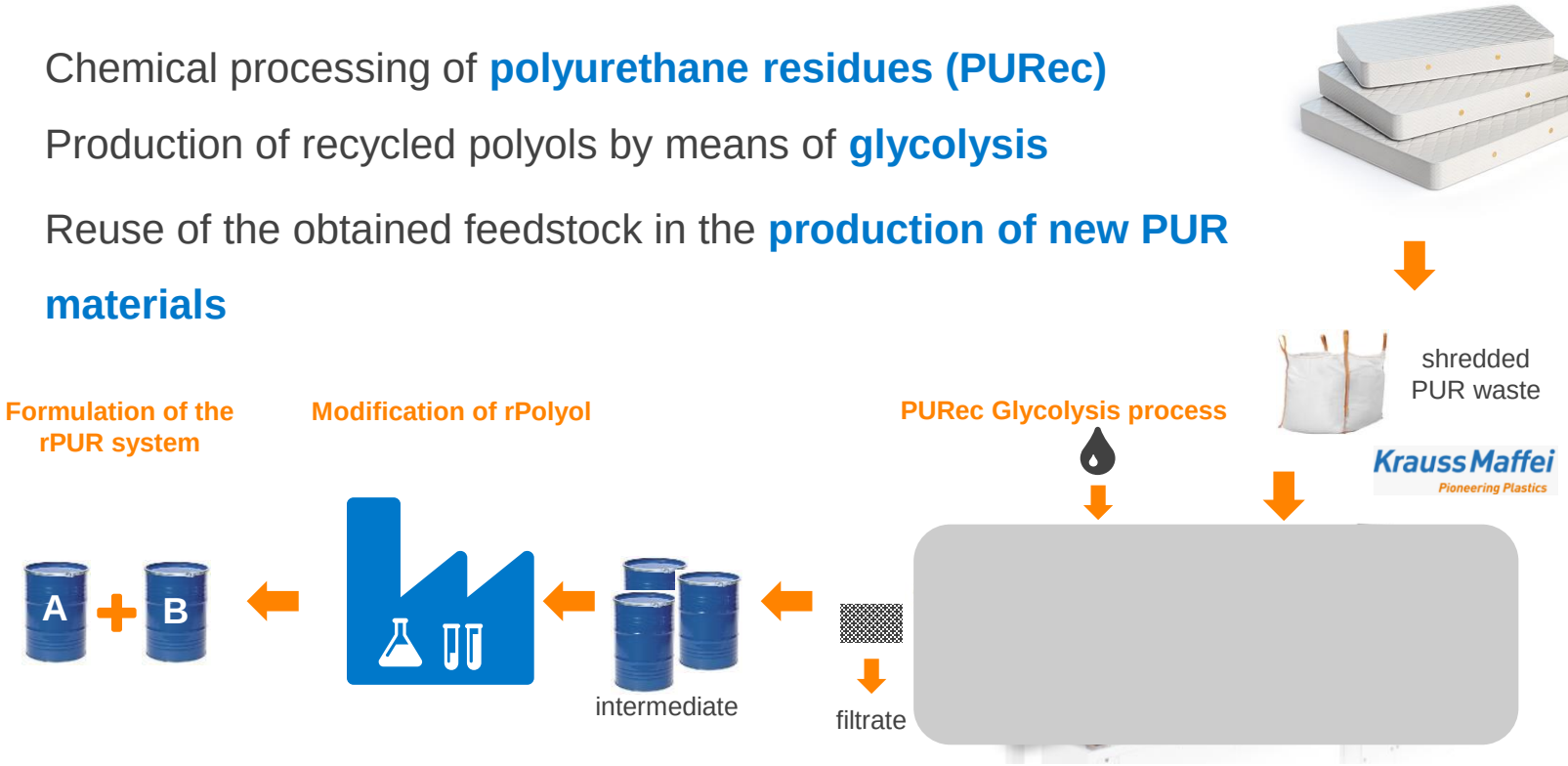
Recycling of PUR

Chemical recycling

purity glycoLine PUR

Input	PUR waste soft foam (mattresses, upholstery)
Output	rPolyol

- Chemical processing of **polyurethane residues (PURec)**
- Production of recycled polyols by means of **glycolysis**
- Reuse of the obtained feedstock in the **production of new PUR materials**



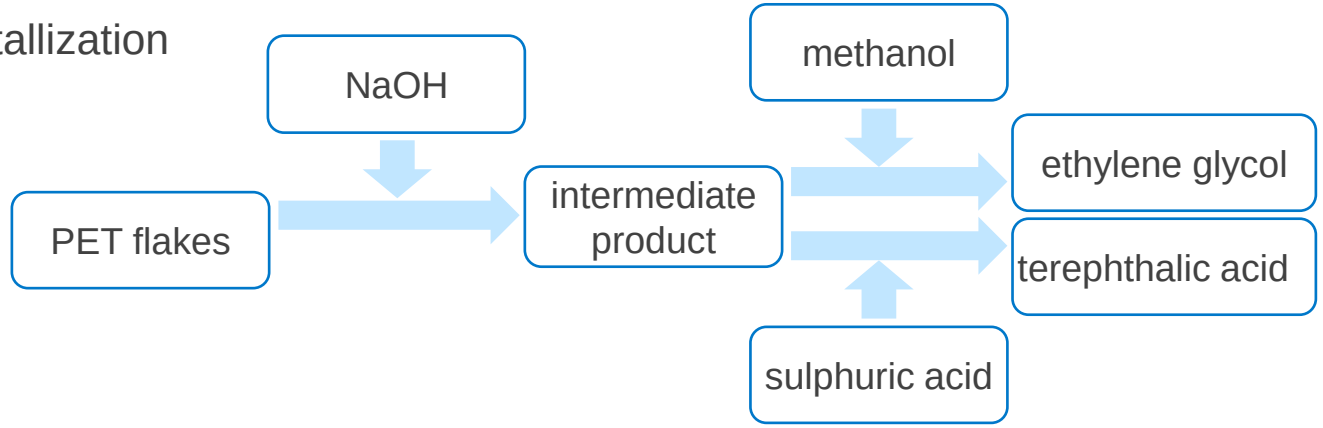
Recycling of PET

Chemical recycling

purity recyclingLine

Input	PET flakes	Sodium hydroxide
Output	Ethylene glycol	Terephthalic acid

- **Depolymerization** of PET with sodium hydroxide (drain cleaner)
- Feeding of spherical NaOH via the side feeder
- Recovery of **ethylene glycol** with methanol
- Precipitation of **terephthalic acid** with sulphuric acid, purification and recrystallization



Recycling of PUR

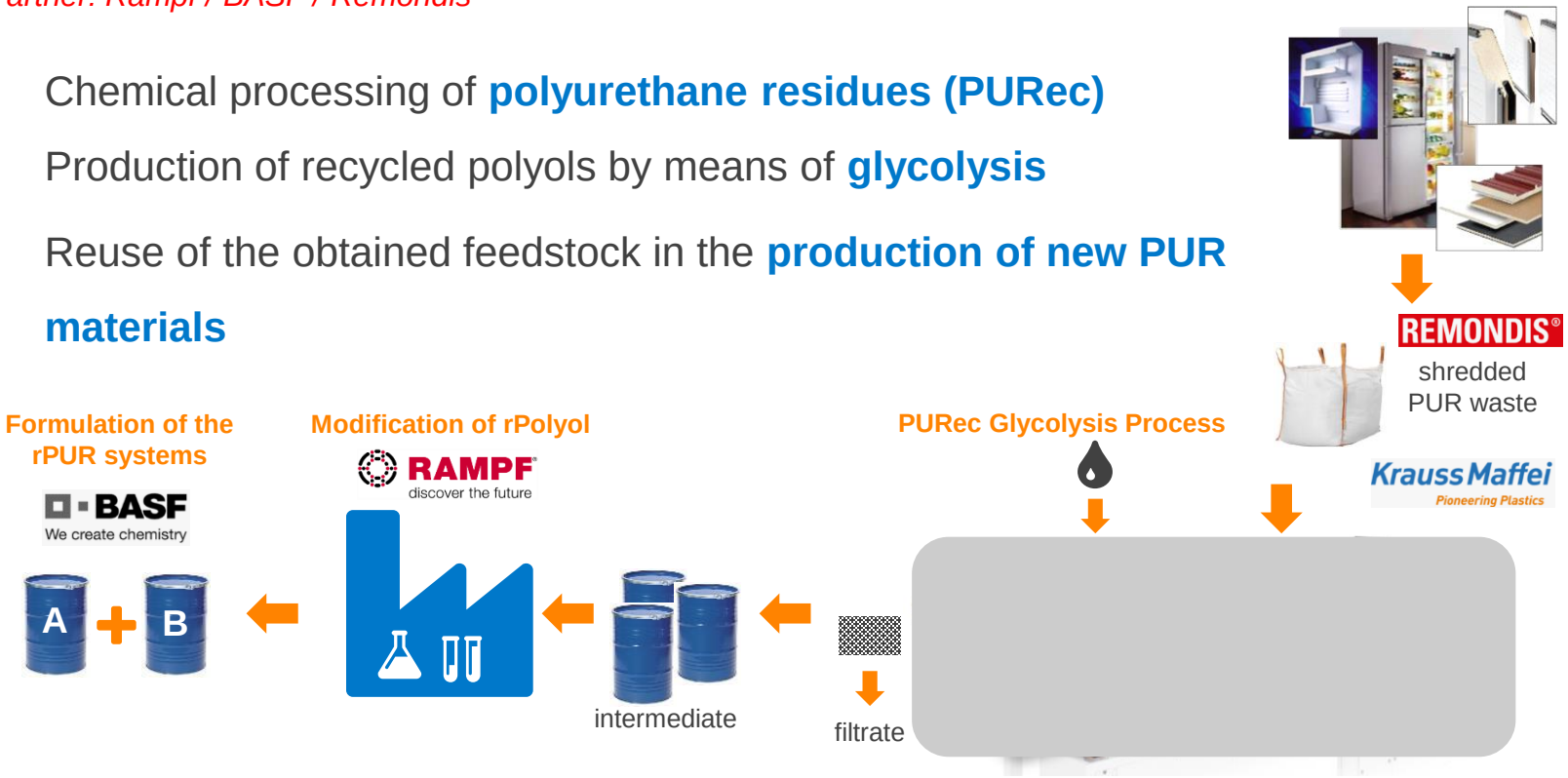
Chemical recycling

purity glycoLine PUR

Input	PUR waste hard foam (refrigerator insulation)
Output	rPolyol

Partner: Rampf / BASF / Remondis

- Chemical processing of **polyurethane residues (PURec)**
- Production of recycled polyols by means of **glycolysis**
- Reuse of the obtained feedstock in the **production of new PUR materials**



Recycling of HDPE

Mechanical recycling

purity recyclingLine

Input	Bottle caps of HDPE (FDA)
Output	rHDPE

- **FDA recycling prozess** – material is used for new bottle caps
- Bottle caps are first **shredded**
- Melting of the HDPE shreds in the ZE 65 D BluePower
- Stripping of odorous substances through **degassing and vacuum**
- Filtering the melt through a 120µm filter

Recycling of HDPE

Mechanical recycling

purity recyclingLine

Input	Flakes of HDPE packaging waste
Output	rHDPE

- Mixture of **virgin HDPE** with various proportions of **post-consumer HDPE**
- Melting the HDPE flakes in the ZE 65 D BluePower
- Adding the virgin HDPE in the second extruder of the **compounding line**
- Stripping of odorous substances through **degassing and vacuum**
- Filtering the melt through a 120µm filter

Recycling of PP

Mechanical recycling

purity recyclingLine

Input	Shredded foils of PP
Output	rPP

- **Pelletizing the shreds** to increase the bulk density and reduce the moisture content
- Melting the pellets in the ZE 65 D BluePower
- Stripping of odorous substances through **degassing and vacuum**

Recycling of PS

Mechanical recycling

purity recyclingLine

Input	Flakes from yoghurt cups
Output	rPS

- Regranulation of flakes from polystyrene
- Melting the flakes in the ZE 65 D BluePower
- Stripping of odorous substances through **degassing and vacuum**
- Filtering using a **continuous melt filter** from Nordson