



## COPERION RECYCLING

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C.K. Kim  
Sales Director  
**InFeed Corporation**

coperion  
confidence through partnership





copèrion

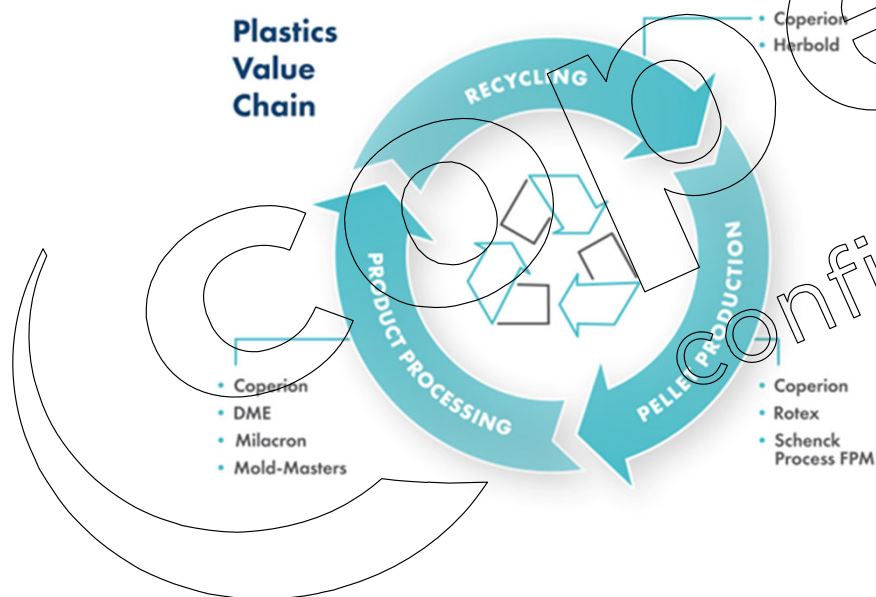
 **Business Unit  
Recycling**

# Optimized and Closed Plastic Value Chain



Key words: Circular Economy, Sustainability, Energy Savings

A circular economy keeps materials and products in circulation as long as possible. Coperion has a system-focused approach starting with the design of our equipment to maintain their highest value for as long as possible and aims for the elimination of waste during operation for high quality products.



Design for Value with optimized CO<sub>2</sub> Footprint

Lowest Energy Consumption during Operation

Zero Waste Strategy during Operation

Optimized Process Chain from PCR to Pellets

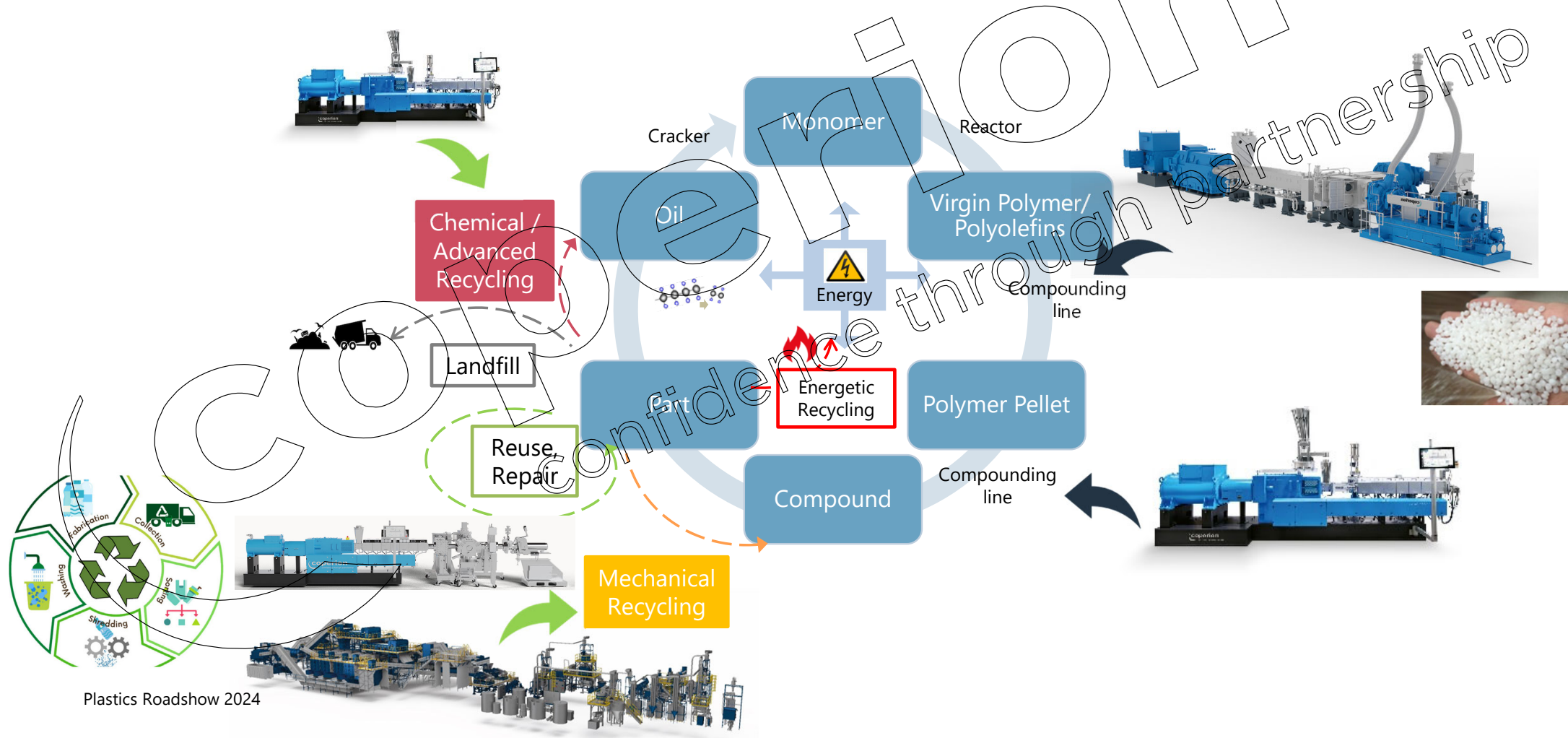




# Plastic Value Chain



Coperion covers the entire process chain from raw material to final high-quality pellets

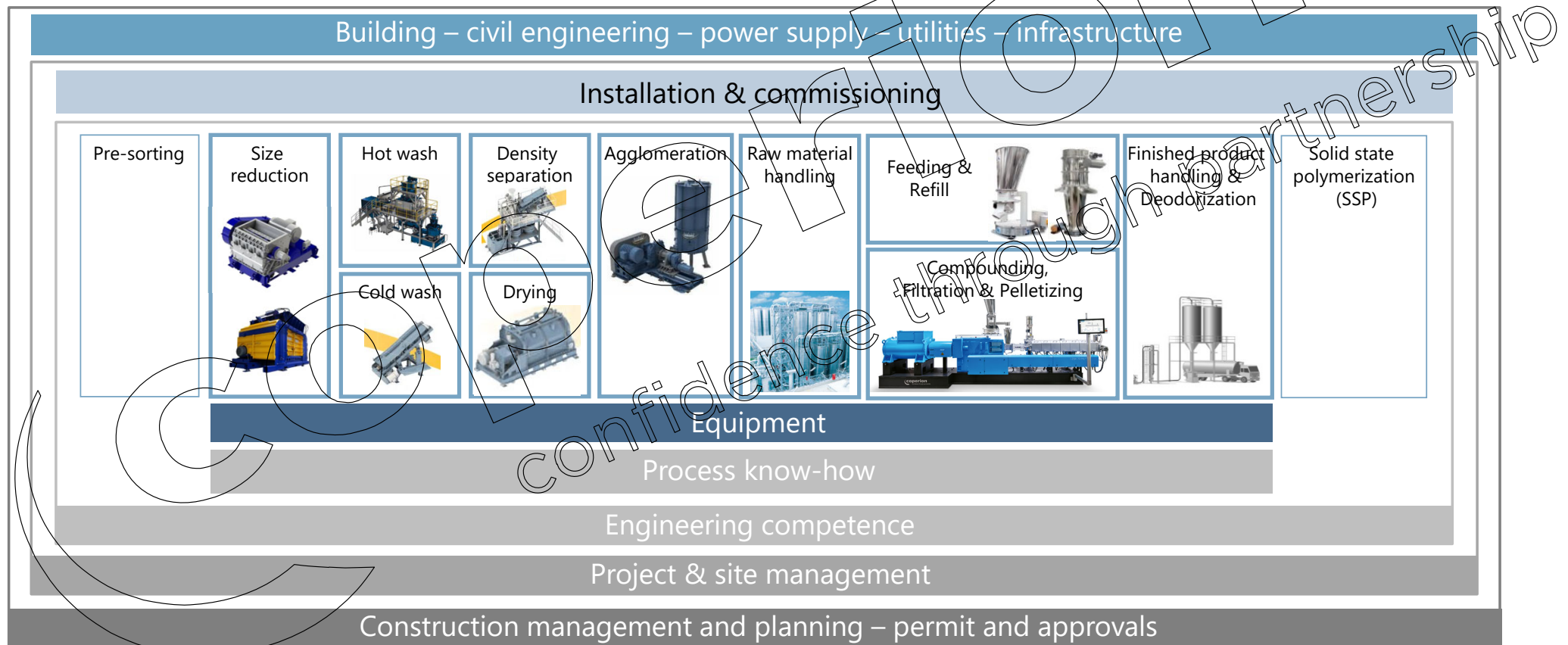




## Recycling Business Unit – New common product range



The integration of Herbold and Schenck allow us to offer the Recycling industry best in class equipment as well as full scale Recycling plants by leveraging Coperion's engineering capabilities.



# Coperion Recycling – activity spectrum



We offer a wide range of recycling solutions accross a wide spectrum of plastics types, recycling technologies, customer segments and geographic regions.



Material	Plastics	Wood	Paper	Metal	Other	
Feedstock	Virgin Plastic			Plastics Waste		
Waste Source	Post-consumer plastics waste			Post-industrial plastics waste		
Waste Material	High-density Polyethylene (HDPE)	Low-density Polyethylene (LDPE)	Polypropylene (PP)	Polyethylene Terephthalate (PET)	Others (PVC, PS and PA)	
Customer Type	Waste Management incl. Recycling	Recyclers		Petrochem Companies	End Product Manufacturers	
Recycling Technologies	Mechanical recycling	Solvent-based purification	Chemical decomposition	Pyrolysis and gasification	Thermal decomposition	
Throughput ranges	<0.5t/h	0.5t/h – 2t/h		2t/h – 5t/h	>5t/h	
Regional Focus	Europe	North America	Asia	China	India	Others



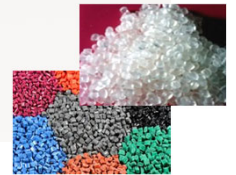
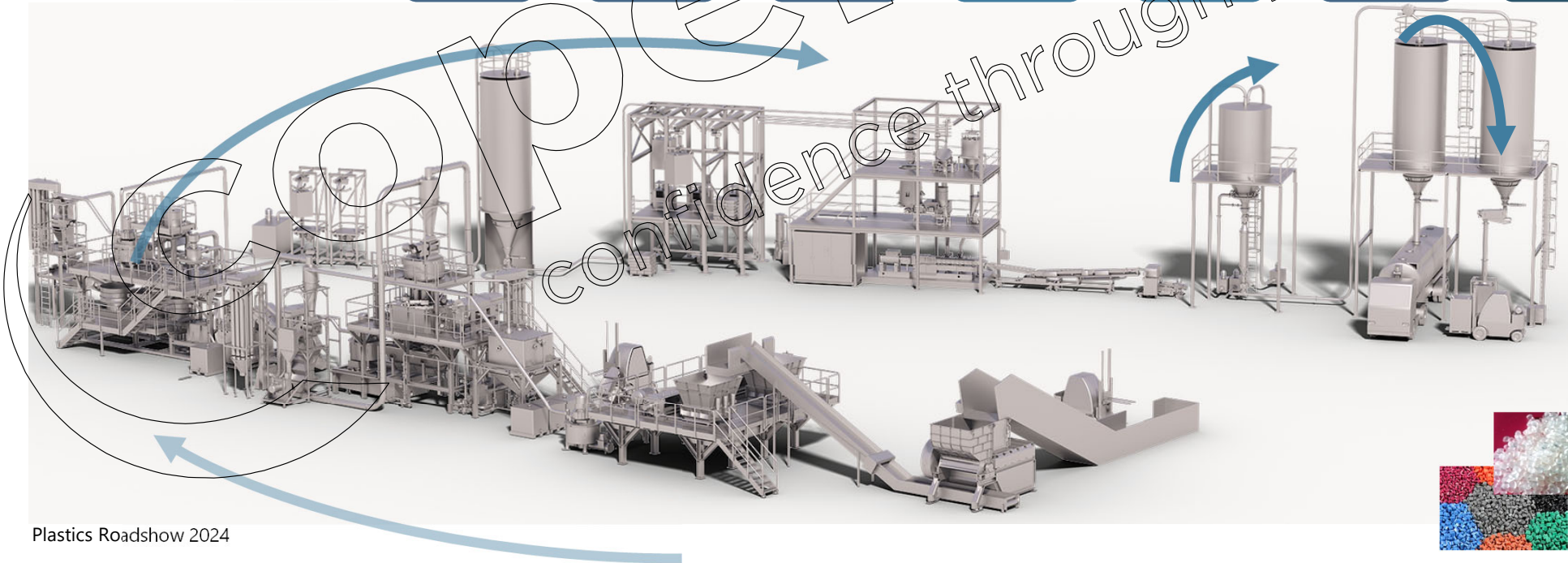
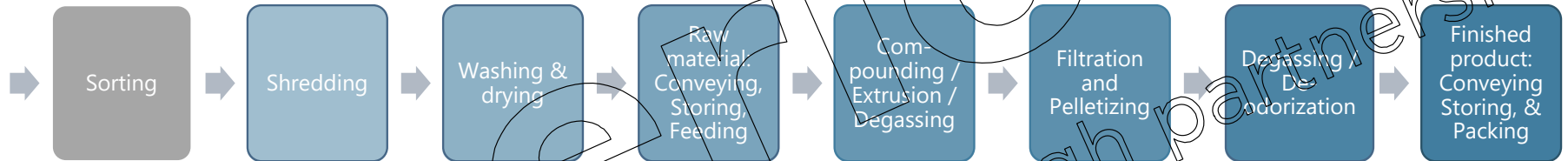


# End-to-end plants for recycling of plastics

full end-to-end solution for recycling processes, combined with a global footprint and strong innovation.

**coperion**

**HERBOLD**  
MECKESHEIM

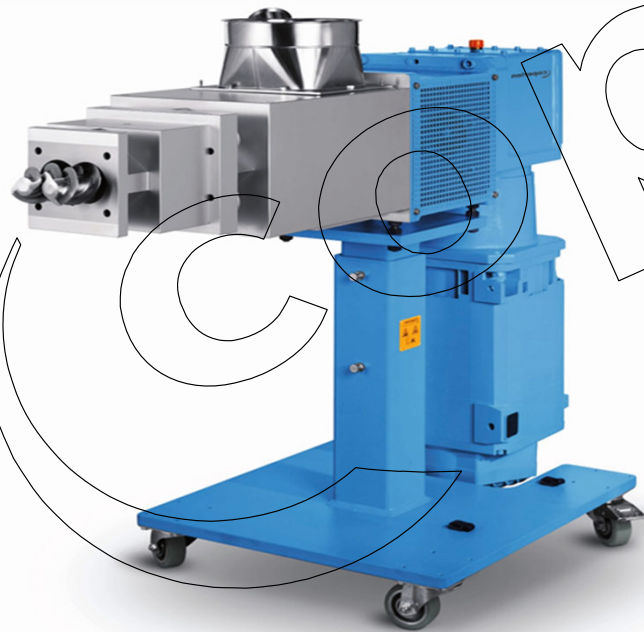






# Raw Material Handling

Raw Material Properties and Challenges

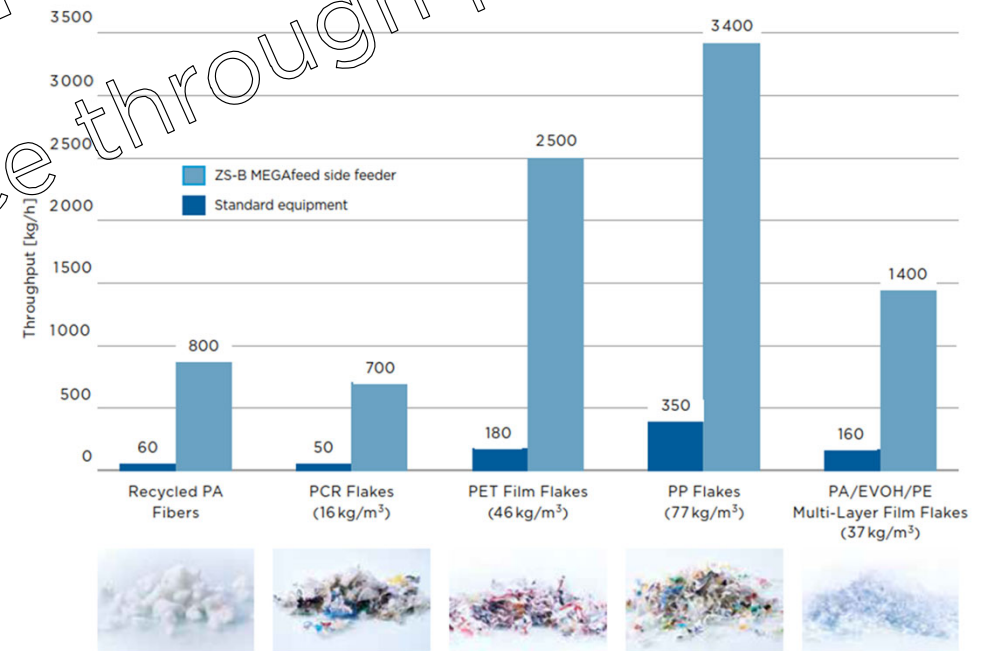


## New innovative feeding device

Even with very low screw speeds at the **NEW side feeder**, higher throughputs can be achieved with very fluffy materials



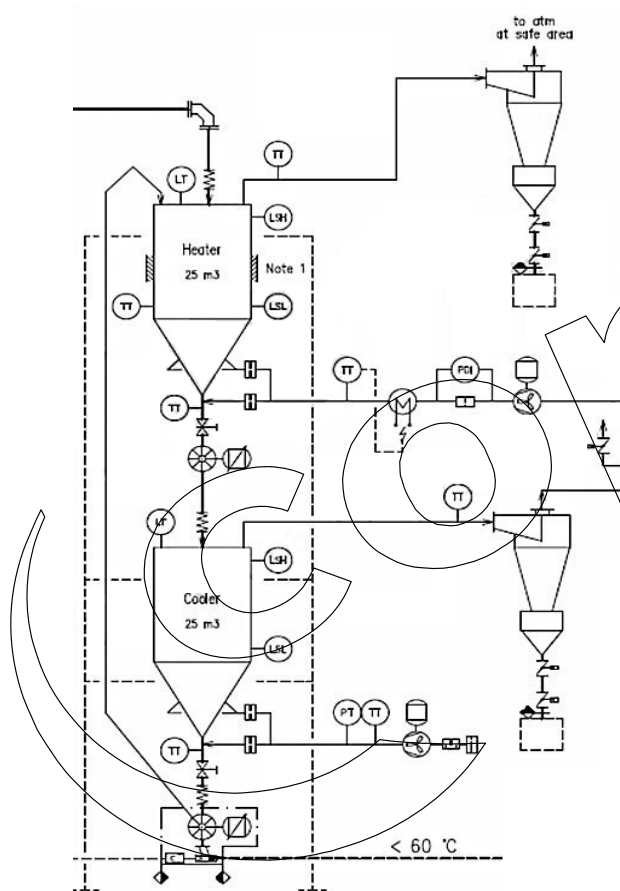
Throughput increase x 10 -15





# Silo Deodorization

Deodorization with Gas-X-Change



## VOC reduction with Gas-X-Change

- The process heat from the bulk material cooler is used to preheat the supply air
- Energy consumption **0,05 kWh/kg**

→ **Continuous process**

- Low energy consumption
- Energy is kept in the system
- Highest product temperatures possible



# FilCo – Energy Efficient – High Quality – Less Space

Filco = Filtration Compounder



**F**iltration and **C**ompounding of pre-washed and sorted PCR streams in **one** process step

- Melting and blending of different polymers, **discharging** the melt from the twin screw and **returning** the filtered melt
- **Adding** of coarse fillers, fibers or cross-linking additives such as peroxide after filtration

Two-time  
Innovation  
Award Winner

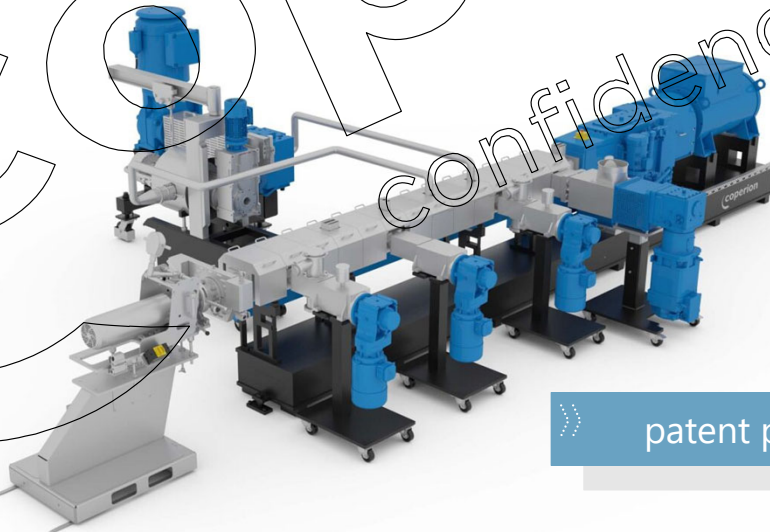


Coperion's FilCo was voted  
"Product of the Year" in the  
category "sustainability"



» patent pending

Plastics Roadshow 2024

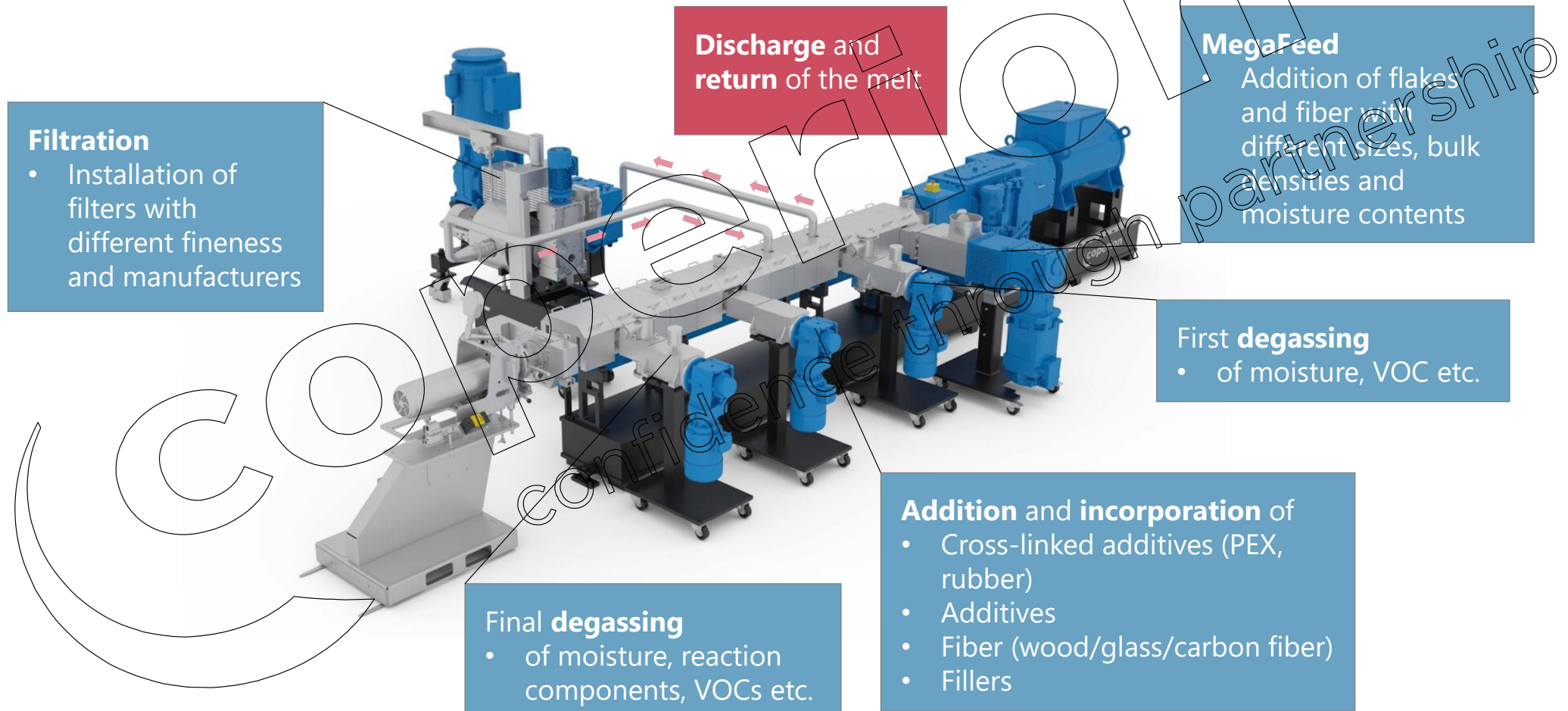




# FilCo – Energy Efficient – High Quality – Less Space



## Process setup





# Coperion Recycling Innovation Centers



## Recycling Innovation Center for Coperion Product Line Niederbiegen, Germany



- Storage and Homogenization
- Conveying and drying
- Dosing
- Compounding
- Degassing and deodorization
- Pelletizing and bagging

Plastics Roadshow 2024



### Europe

**Niederlenz, Switzerland**  
*Feeding & Conveying*

### North America

**Salina, Kansas**  
*Pneumatic Conveying*  
**Pitman, New Jersey**  
*Feeding & Extrusion*

### Asia

**Nanjing, China**  
*Extrusion, Pneumatic  
conveying & Feeding*

**Test facilities for the full product line are  
available worldwide to prove the working  
principle of Coperion and Herbold  
equipment with our customer's products.**

## Recycling Innovation Center for Herbold Product Line Meckesheim, Germany



- Size Reduction
- Washing
- Drying
- Separation
- Agglomeration

# Business Unit Recycling – **Why we are the right partner**



**Coperion, Schenck and Herbold** – a new level of expertise in plastics recycling

## What makes Coperion Recycling unique and the best partner:

- We are **bringing strong brands** in size reduction, washing/drying, compounding and materials handling **together** to offer the recycling industry best in class processes.
- We **serve you globally** with strong sales, engineering, production and service capabilities.
- Our **high in-house production** rate allows for targeted product development.
- Long lasting **experience and process know how** in plastics and plastics recycling.
- **One stop shop** starting from equipment up to entire turnkey plants.
- **Provider of tailor-made** solutions for all recycling processes.
- **Food-grade PET bottle-to-bottle references** with brand approval with our SSP partner (Coca Cola)
- **Recycling Innovation Centres** in Europe and testing facilities around the world to support our customers.

**Industry leading technology**

**Best Total Cost of Ownership**

**Worldwide support**

**Our unique selling points include high throughput, high end product quality, high yields, low overall resource consumption, design for 24/7 operation at highest availability**



# FOR TOMORROW

- We constantly learn and improve! To better support our customers and partners

coperion

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THANK YOU VERY  
MUCH FOR YOUR  
ATTENTION.

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You're very welcome to follow us.



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