

A 3D rendering of a multi-roller extrusion system. The rollers are grey and arranged in a line, with a stream of material being extruded from the right. The stream is composed of many small, colorful particles (blue, pink, and purple) that are being processed by the rollers. The background is white.

# EXTRUSION DAYS EFFICIENCY IN COMPOUNDING

# Upstream and Downstream and Around From the Compounder to a Complete Plant

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# Upstream and Downstream and Around From the Compounder to a Complete Plant

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING



- The Coperion portfolio for compounding plants
- Smart solutions for more efficiency in compounding
- The complete plant from one single source

**coperion**  
confidence through partnership



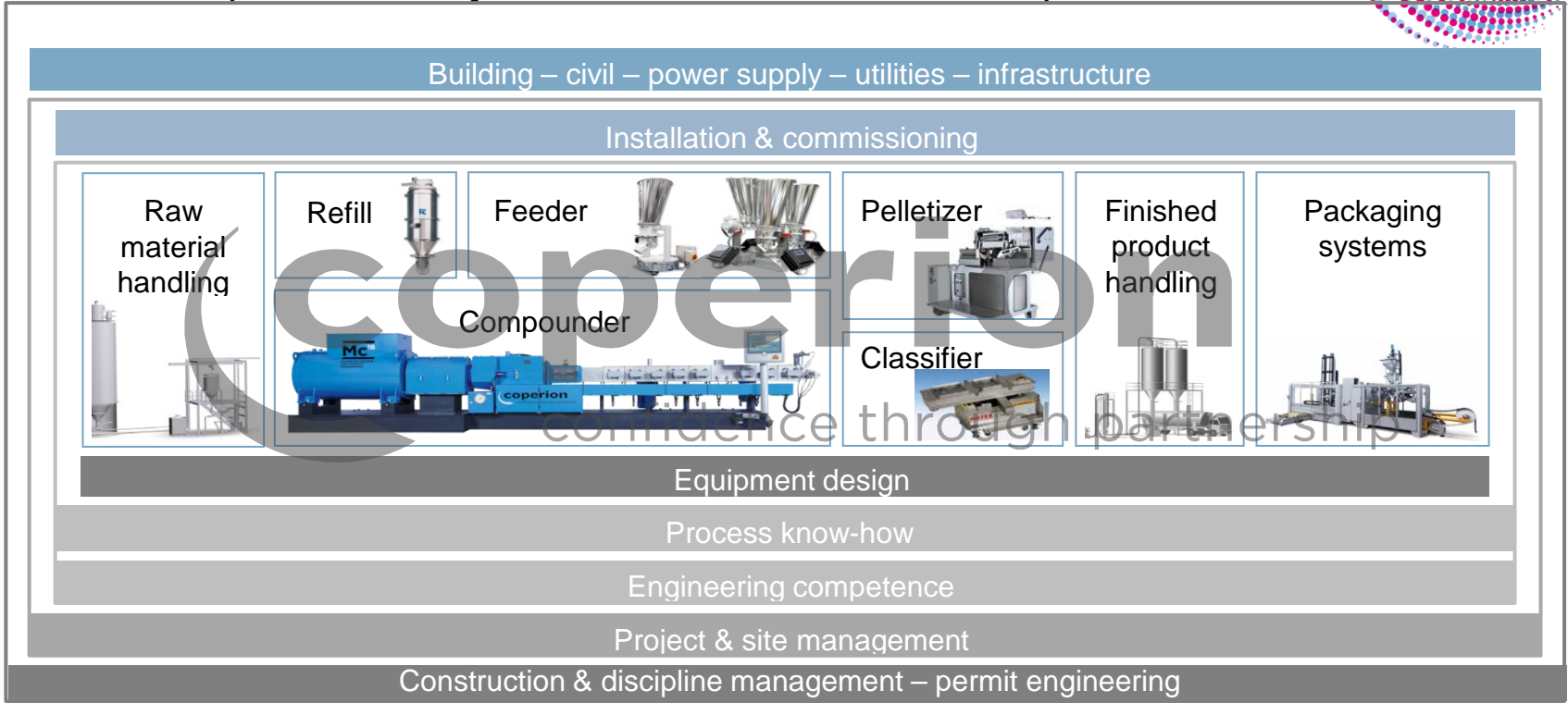
# The Coperion Portfolio for Compounding

confidence through partnership

# Compounding Plants

## One Envelope for the Key Elements of the Process Scope

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING





Smart Solutions for more  
Efficiency in Compounding

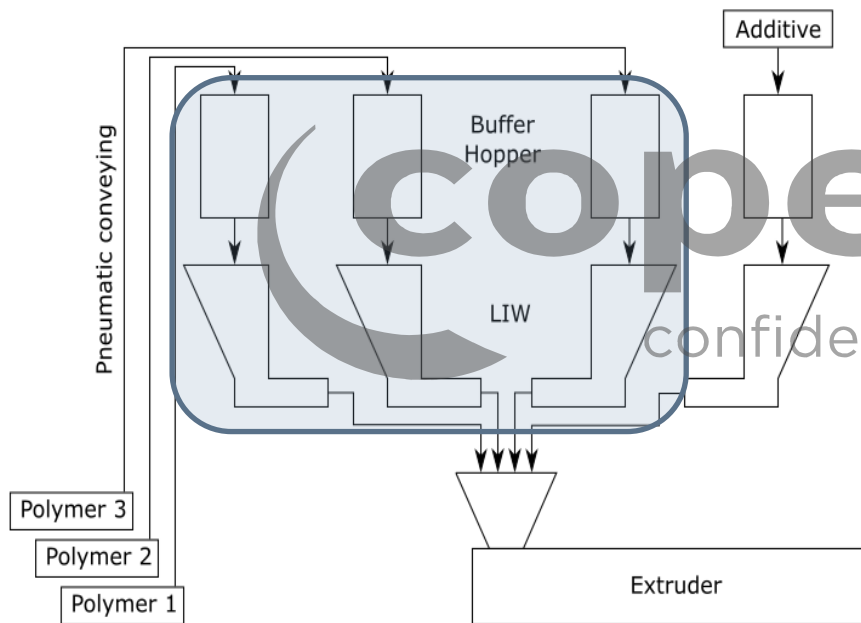
confidence through partnership

# Increase Flexibility and Simplicity of your Plant

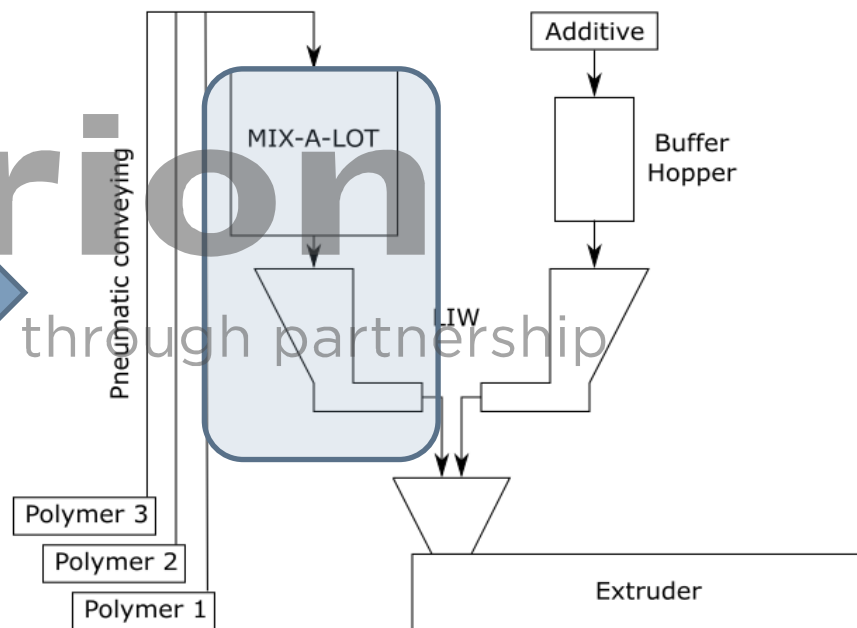
## Pellet Mixer MIX-A-LOT



>> Concept without MIX-A-LOT



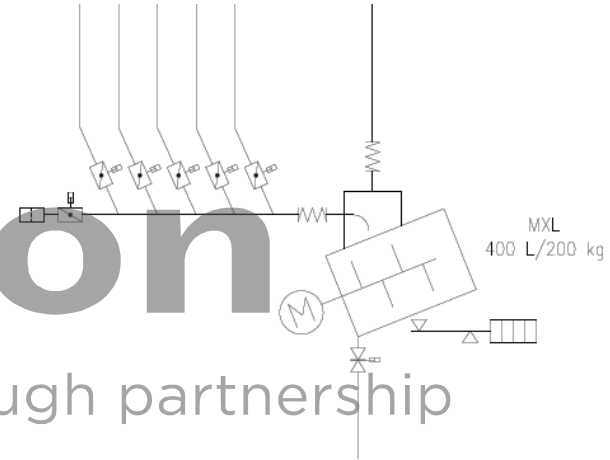
>> Concept with MIX-A-LOT





# Increase Flexibility and Simplicity of your Plant

## The MIX-A-LOT – a Batch Mixer for Pre-Mixes & Finished Products



coperion

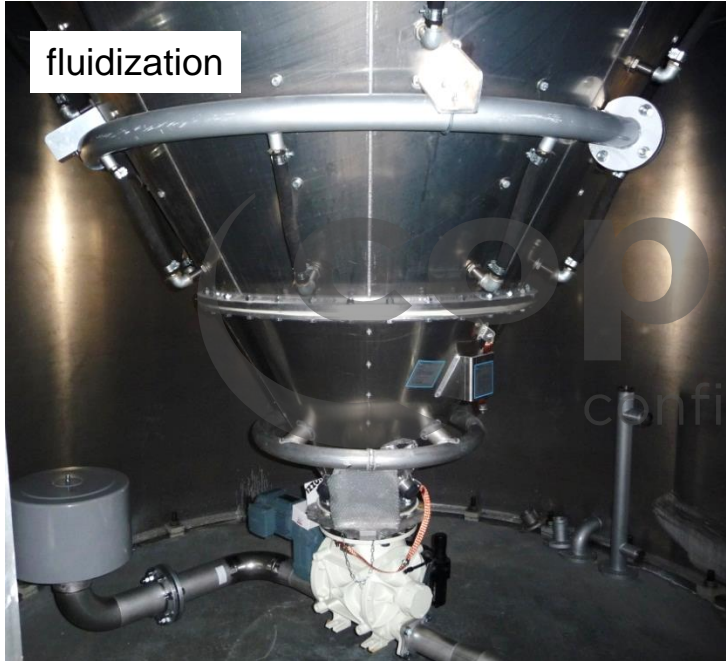
confidence through partnership

- ›› Mixer, scale and receiver in one unit → small footprint
- ›› High accuracy in dosing and weighing → substitutes multiple loss-in-weight feeders
- ›› Excellent mixing quality, low speed, very gentle to the product
- ›› High flexibility in recipe adaption, simplified plant design
- ›› Capacity up to 5.000 kg/h
- ›› No dead spots, easy access for cleaning and inspection



# Handle Difficult Powders Reliably

## Extraction from Storage Silos and Hoppers: Fluidisation or Bin Activation

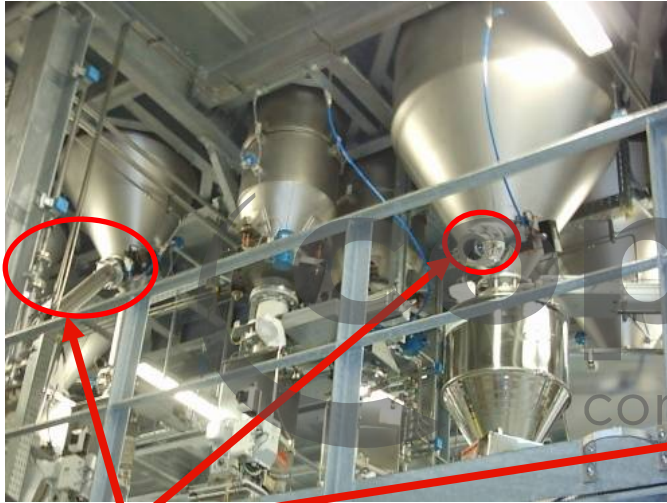


» For bad flowing materials:  $\text{CaCO}_3$ ,  $\text{TiO}_2$ ,  $\text{MgOH}$ , ATH, talcum, carbon black, pigments

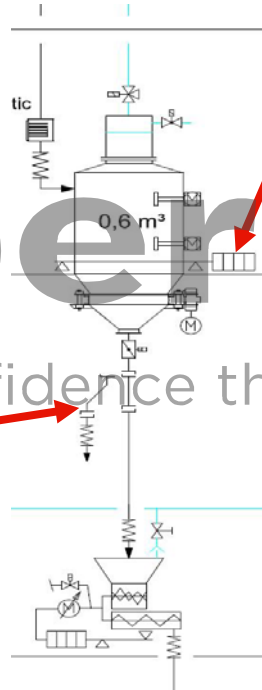


# Accelerate Product Change-Over

## Minimize Residuals and Enable Fast Emptying

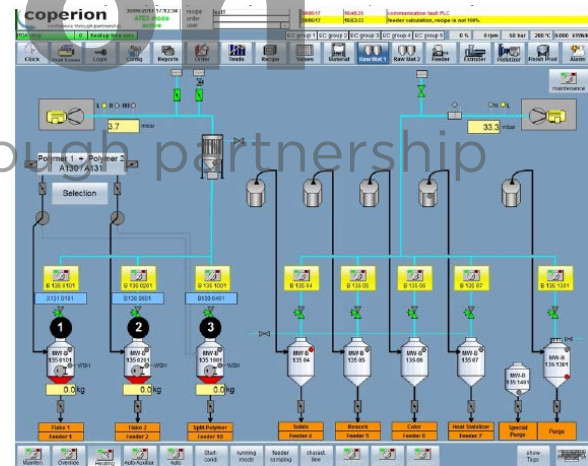


Quick-opening secondary discharge to speed up hopper unloading at change-over



Receiving hopper on load cells:

- reduce remaining material for product change over
- link with intelligent control system





# Accelerate Product Change-Over

## Loss-In-Weight Feeders: Easy Access and Quick Exchange



### Swiveling table

- quick horizontal and vertical movement
- easy access

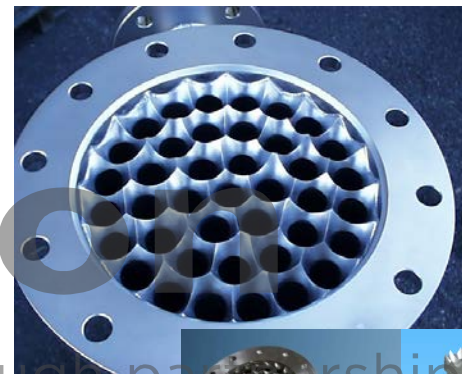
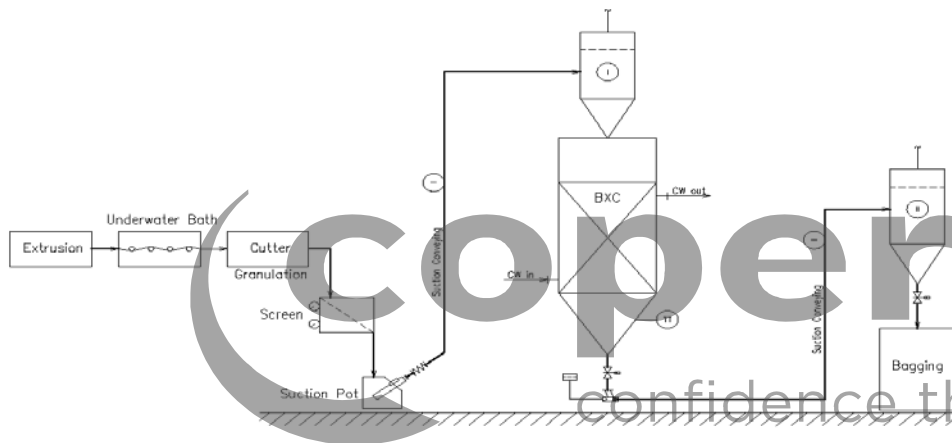


### Quick exchange

- slide in and out

# Improve Cooling of Strand Pellets prior to Bagging Bulk Materials Heat Exchanger BULK-X-CHANGE®

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING

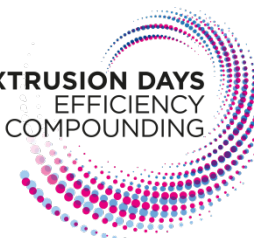


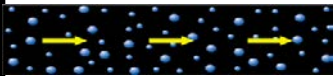
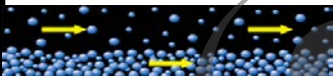
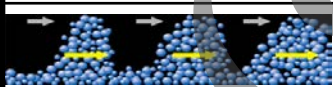

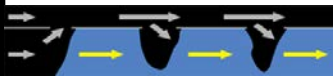

## Advantages compared to other solutions:

- » Free positioning
- » Closed system – no vapors, no noise emission
- » No product degradation
- » Reduction of surface humidity possible

# Choose the best Conveying Mode for Powders and Pellets

## Overview on Conveying Modes



Conveying mode	Characterised by	Products	Trade Name
 <p><b>Dilute-phase (lean phase)</b></p>	<p>High energy consumption High operational reliability</p>	<p>Wide product range</p>	<p><b>FLUIDLEAN®</b></p>
 <p><b>Dilute-phase (strand phase)</b></p>	<p>Low energy consumption Smaller pipe size</p>	<p>Free-flowing products (fluff, granules, pellets)</p>	<p><b>Fluidlift®</b></p>
 <p><b>Slow motion dense-phase (plug phase)</b></p>	<p>High load ratio Less dust and streamers Low wear</p>	<p>Pellets</p>	<p><b>CONTI-SCHUB®</b> <b>TAKT-SCHUB®</b></p>
 <p><b>Dense-phase (fluid phase)</b></p>	<p>Low energy consumption Smaller pipe size</p>	<p>Fluidisable powders</p>	<p><b>Super-Dense®</b></p>
 <p><b>Dense-phase with internal bypass</b></p>	<p>Self-stabilising No obstruction</p>	<p>Powders with average fluidisation properties, finely-grained bulk material</p>	<p><b>FLUIDSTAT®</b></p>
 <p><b>Dense-phase with external bypass (plug phase)</b></p>	<p>No obstruction Gentle conveying</p>	<p>Non-fluidisable powders, fine to coarse bulk material</p>	<p><b>FLUID-SPLIT®</b></p>



# Choose Dense Phase Conveying for your Finished Product

## Slow Motion for Sensitive Plastic Pellets



↳ “Slow Motion“

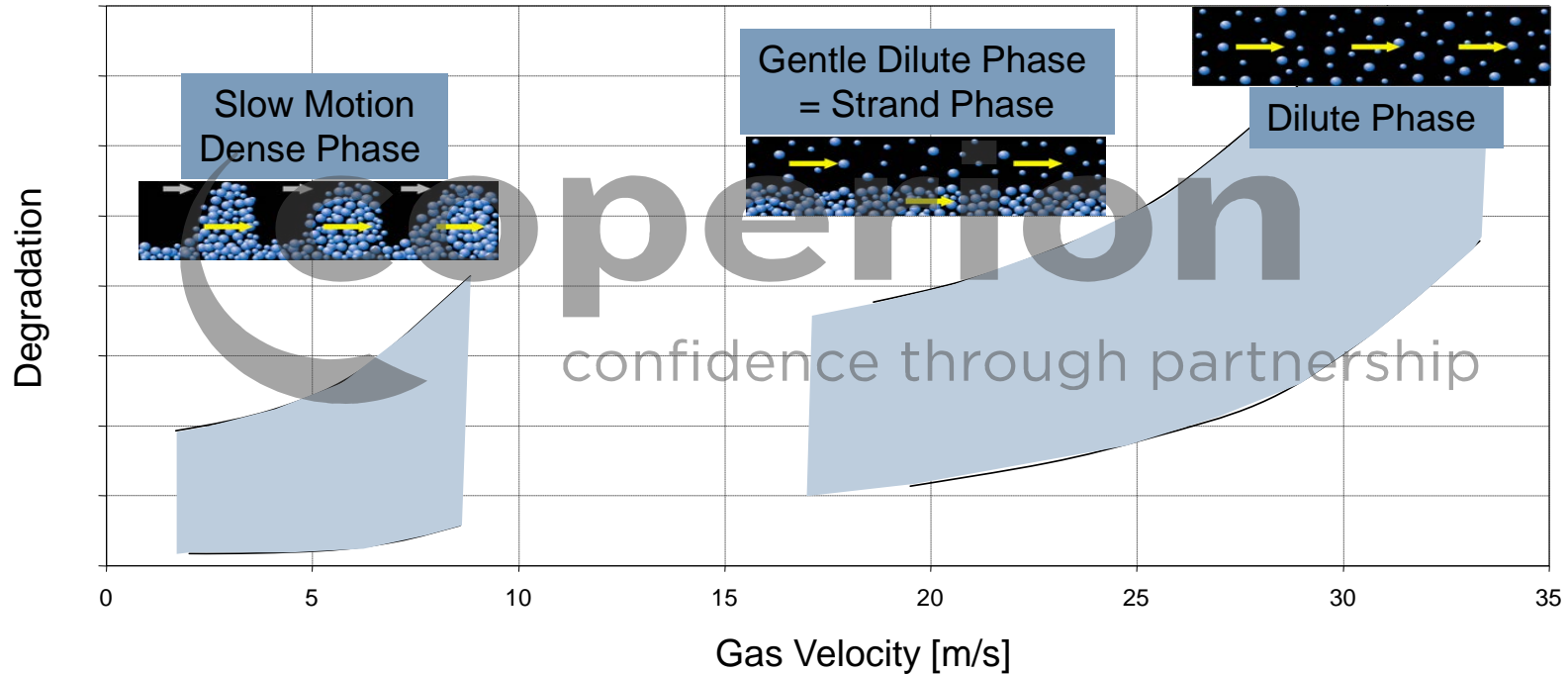
» Value of this technology is the low abrasion (pellet / pipe) due to low velocity of the product.

### Application:

- Pellets (Plastics)
- Similar particle shape: 3 – 10 mm
- Plastic pellets which are sensitive to fines (dust) and streamers formation
- Plastic pellets which create excessive wear to the piping (e.g. filled with glass fibers or minerals)

# Protect the Quality of your Product

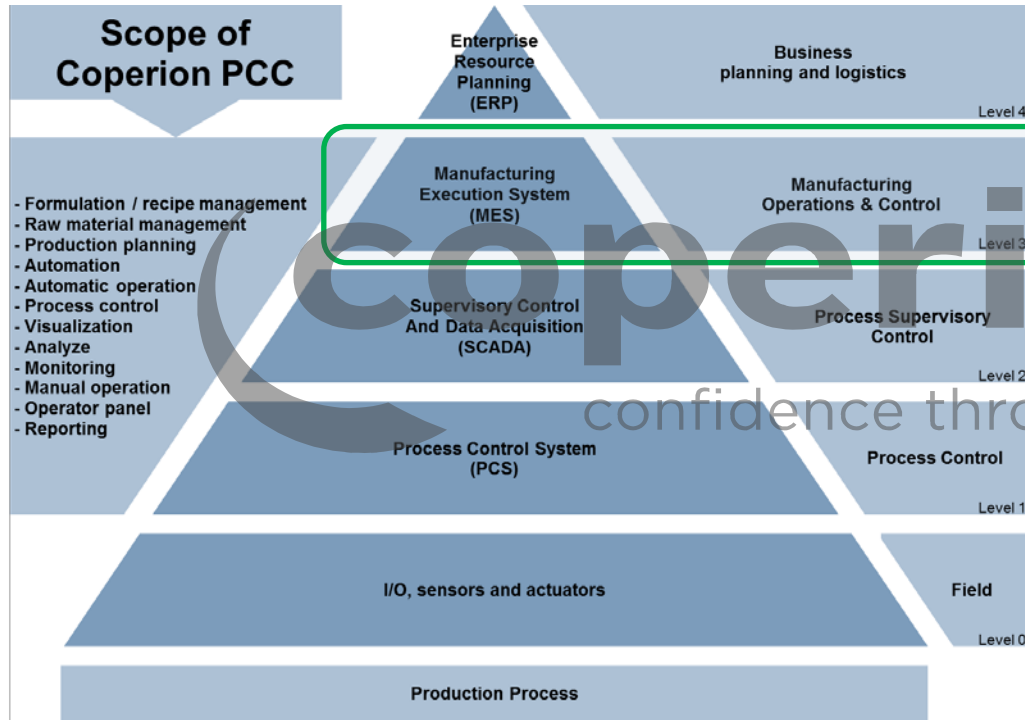
## Generation of Fines at Different Conveying Modes





# Monitor & Control your Entire Compounding Plant Efficiently

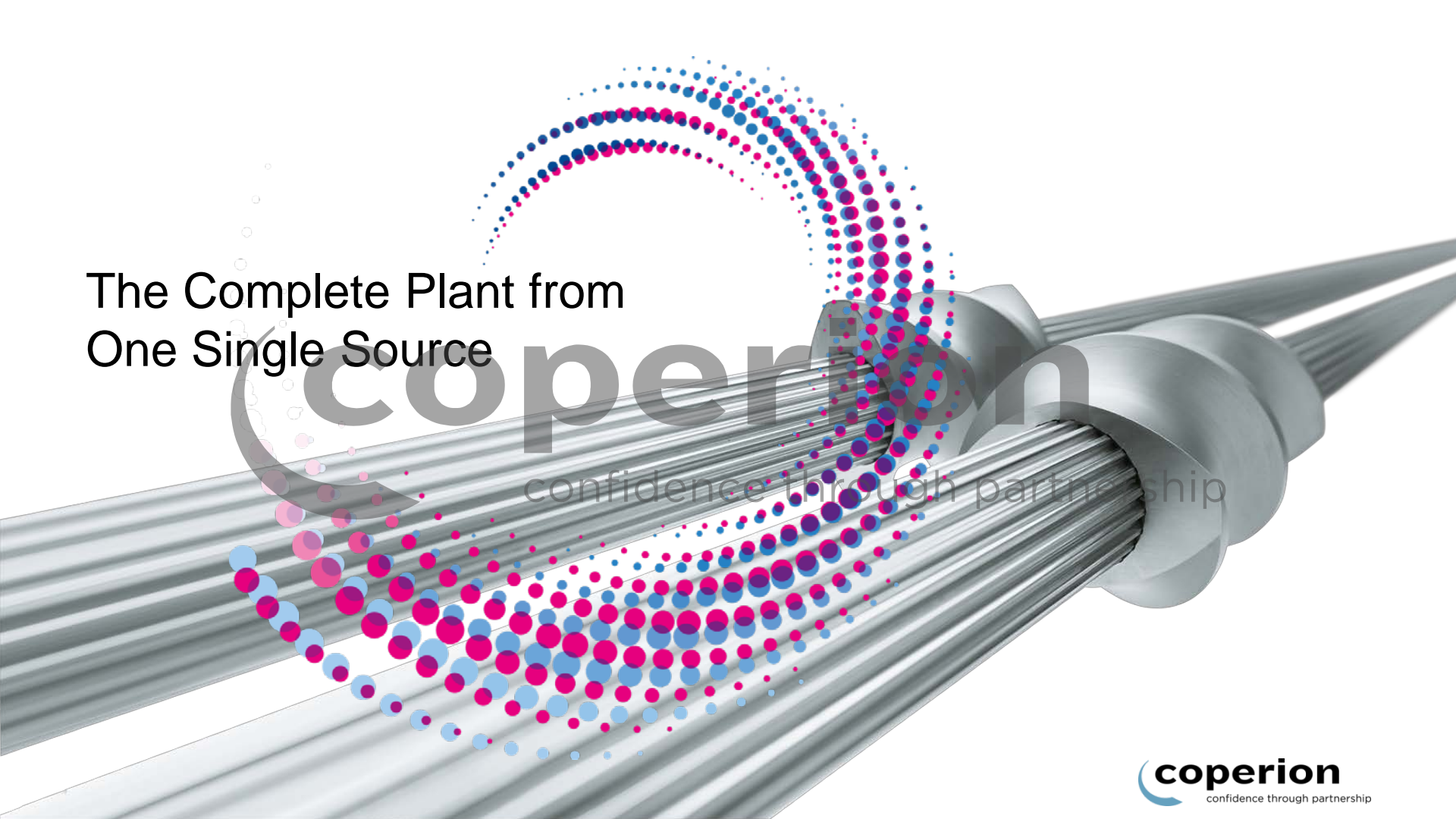
## Coperion – Production Control Center (CPCC)



The scope of **CPCC** is:

- Manufacturing Execution System (MES)
- Supervisory Control And Data Acquisition (SCADA)
- Process Control System (PCS)
- Machine and Plant Control (PLC)





The Complete Plant from  
One Single Source

coperion  
confidence through partnership

# Coperion Global Engineering & Procurement Network

## Globally Flexible Set-up for Multinational Projects



# Compounding Plants in Modular Design

Pre-installation and Commissioning at Coperion Germany, China & USA

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING



# Compounding Plant in Middle East

## 2 Lines for PP Compound

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING



# Compounding Plant in Middle East Bagging Silos and Blower Room

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING



# Compounding Plant for PA/PBT in SEA

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING



# Experience from more than 150 Complete Lines since 2000

EXTRUSION DAYS  
EFFICIENCY  
IN COMPOUNDING

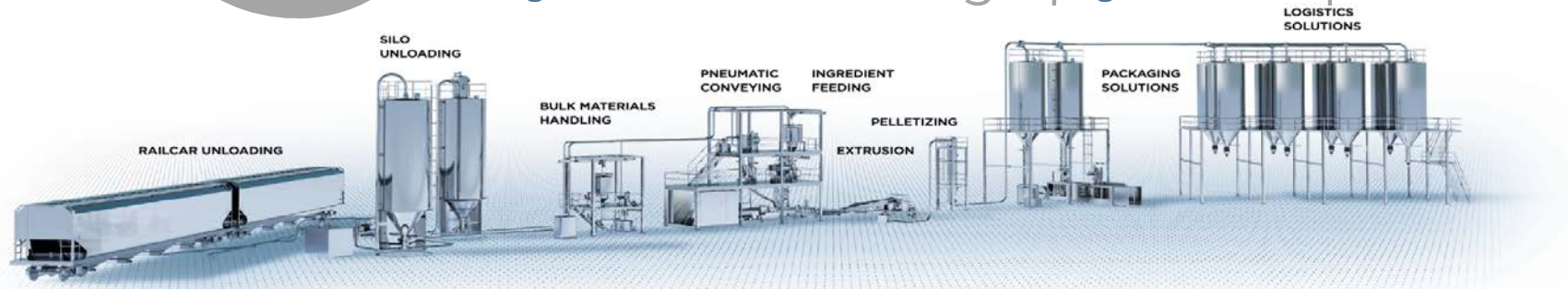


Coperion's globally unique feature is the unification of all supplies and services for the complete process chain under one roof:

- Raw Materials Handling
- Feeding and Dosing
- Compounding & Extrusion
- Finished Product Handling
- Bagging & Palletizing

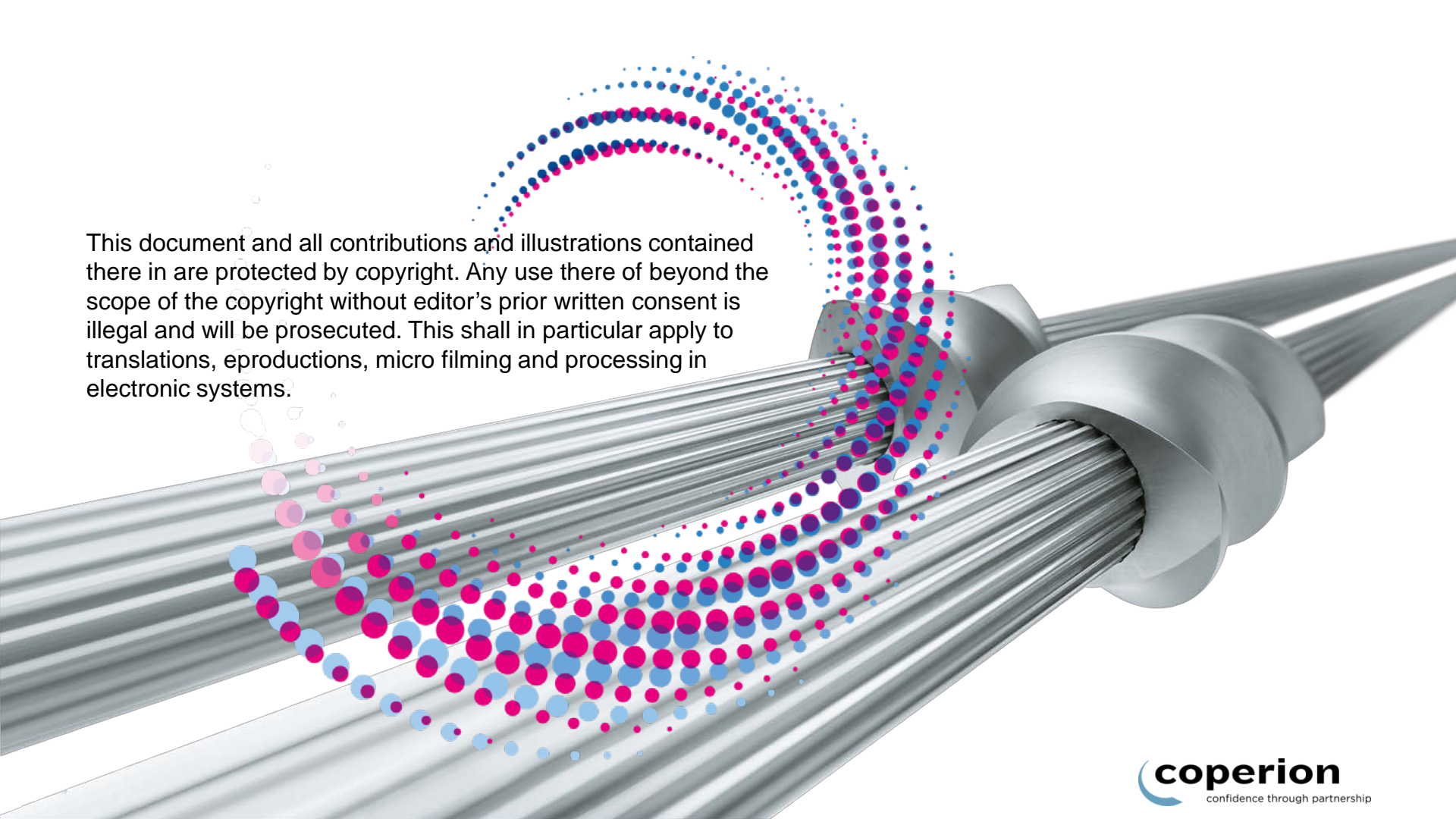
This has decisive advantages for our customers when planning and erecting a compounding plant:

- >> One contact and project responsibility
- >> A comprehensive, seamless technical concept
- >> Efficient and integrated installation & commissioning



Thank you very much  
for your attention!





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