

# Advancing sustainability

**Customer benefits**  
Full packaging solutions

**Designed for recyclability**

High barrier flexible packaging  
Good oxygen & water barrier

**Mono-material structures**

Cost-reduction



Goal

## Lead the way in packaging designed for recyclability



**Reduce**

State-of-the-art packaging solutions



**Reuse**

Utilizing a new generation of polymers



**Recycle**

High barrier packaging designed for recyclability

## Packaging consumption Sustainability challenges

**Brand owners**

- Sustainability pledges
- Move towards circular economy
- 3R priorities (Reduce, Reuse, Recycle)

**Recyclable packaging**

- High barrier
- Replace multi-material structures
- Innovation

## Collaboration: Delivering sustainable solutions



**BOBST & industry  
leading partners**



**Newest generation  
of polymers (MDO PE,  
BOPP, BOPE & CPP)**



**Different high barrier  
mono-material structures**



**Considerable investment**



**Intense research**



**Latest technology  
& expertise**



**State-of-the-art  
machinery**

### High barrier, printing & lamination competence centres



- Leverage BOBST unique technologies
- Carry out barrier & adhesion tests in our laboratories
- **EXPERT K5 – Vacuum metallizer**  
Vacuum metallizing: AlOx deposition and metallization with AluBond®
- **NOVA C0 750 – Coater**  
Wet coating: Protective water-based top coat applied to AlOx
- **EXPERT CI – Flexo press**  
CI flexo: Coated reels flexo printed (reverse water based ink and EB ink surface printing)
- **VISION CL 850 – Laminator**  
Monomer-free & new generation of high barrier adhesives used

### BOPP-UHB film



- For nearly 60 years Brückner, Germany has offered the latest technology for film stretching lines; they provide an individual service to film manufacturers:
  - Packaging film lines
  - Technical & specialty film lines
  - Plant engineering
  - Unique R&D facilities
  - Best technologies available for existing lines by Brückner Service
  - Sustainable film production for a circular economy
- BOPP ultra-high barrier (UHB) film provides outstanding properties for polypropylene film structures for high barrier, sustainable food packaging.
- 5-layer coextruded film + metallization
- Barrier & sealing performance by co-extrusion with a seal strength > 20 N/15 mm=> 1 ply film structures
- Very low oxygen (<0.2 cm<sup>3</sup>/m<sup>2</sup>dbar) & water vapor (<0.5 g/m<sup>2</sup>d) transmission
- With AlOx / SiOx transparent barrier & fully recyclable packaging film



## High performance resins



- Recycle ready, barrier MDO pouch based on high-performance Dow resins
- 5 layer PE-rich lamination film
- Outstanding stiffness & great optics
- Broad sealing window
- Innovative design
- Excellent adhesion to vacuum-deposited layers
- Excellent alternative to BOPET or BOPP
- Suitable for medium to high barrier applications

## Pouch making machines



- One of the three family companies of Elba Group
- Developing & engineering a wide range of high-speed bag making machines since 1956
- The SA-V model is able to run different kinds of materials & produce different types of pouches (2 side seal, 3 side seal, Doypack®/Stand-up, quad seal bag & more)
- Great modularity
- Easy to use
- Reliable
- State-of-the-art components
- Energy saving with motor's kinetic energy recovery system
- Independent servo driven sealing stations

## Blown film extrusion & film orientation

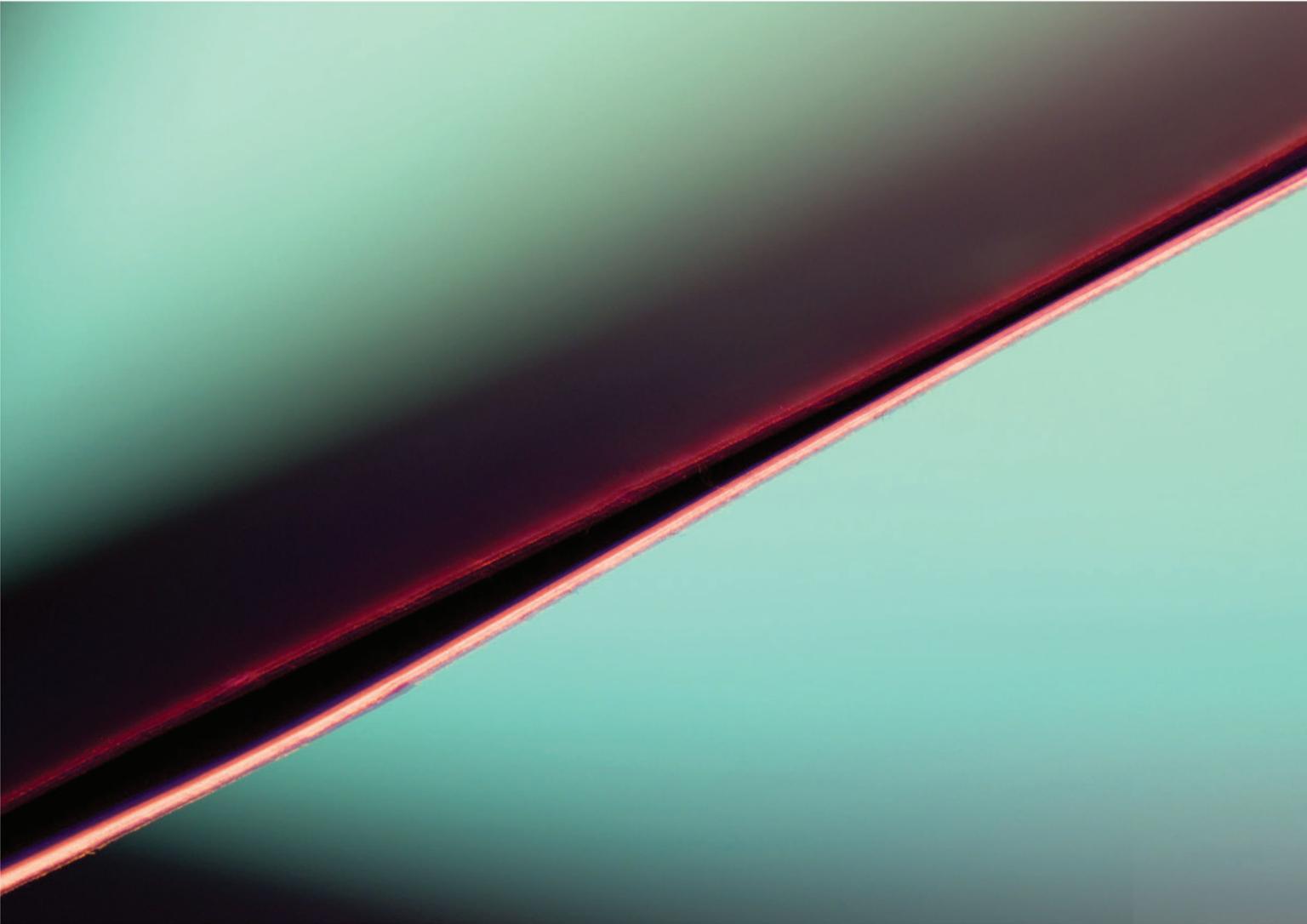


- Alpine stands for more than 20 years experience in machine direction orientation (MDO)
- MDO is a booster for:
  - Mechanical properties (stiffness, tear resistance, impact strength, deadfold for twist film)
  - Optical properties (gloss & transparency)
  - Barrier properties (water vapour barrier, oxygen & gas barrier, breathability for hygienic film)
- MDO lines from Alpine are a crucial component in manufacturing high-performance full PE compounds
- The Alpine MDO with patented TRIO system offers:
  - High toughness for pack integrity
  - Flexibility for reverse printing in flexo or rotogravure lines
  - Significant material savings
  - Very good web planarity for efficient conversion

## Proving high barrier recyclable film works today!



- EcoLam by Constania Flexibles is a high barrier mono-PE
- Fully recyclable
- Excellent barrier properties against water vapour & oxygen
- High machinability
- 32% carbon footprint reduction
- Applicable for food and hygiene applications



[sales.manchester@bobst.com](mailto:sales.manchester@bobst.com)  
+44 1706 622 442

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[sales@brueckner.com](mailto:sales@brueckner.com)  
+49 8662 630

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+41 447283671



[plastics@alpine.hosokawa.com](mailto:plastics@alpine.hosokawa.com)  
+49 821 5906 0

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[sales@elba-spa.it](mailto:sales@elba-spa.it)  
+39 0331 305570

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