Innovia Films
Leading supplier of Speciality BOPP & Cellulose Films

Presented by Claude D’Amico
Global Reach

4 Production Sites
16 Sales & Technical Offices
One R&D Centre
1,400 Employees with Sales to over 110 countries
Sales: USD 600 million
Production Capacities - BOPP

- **Global Capacity**: Approx 90,000 Tonnes

  - **Melbourne, Australia**
  - **Gent, Belgium**
  - **Wigton, United Kingdom**
Production Capacity - Cellulose Films

Global Capacity

Approximately 30,000 Tonnes

Tecumseh, Kansas, USA

Wigton, Cumbria, UK
Our Businesses / Our Position

Coated OPP Films

Cellulose Films

Tobacco

PSA Labels

Industrial & Packaging

Securities

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PACKAGING & SUSTAINABILITY
Sustainability: What It Means

“We do not inherit the Earth from our ancestors.
We borrow it from our children.”

“Meeting the needs of the current generation without compromising
the ability of future generations to meet their own needs.”
A holistic approach to Sustainability in Flexible Packaging

- Focus on 4 key Life Cycle stages, from Cradle to Cradle
- Tangible measurement wherever possible
- Peer-reviewed LCA & Carbon-footprint data
- Independent substantiation of all claims
NatureFlex™ comes from trees...
NatureFlex™ key steps in film production

1. **PULPING**
   - Wood pulp
   - NaOH
   - Pulper

2. **DISSOLUTION**
   - CS₂
   - NaOH
   - Churn
   - Blending

3. **CASTING**

4. **GAS & HEAT RECOVERY**
   - Liquid cellulose
   - Film regeneration
   - Treatment baths

5. **SLITTING**
   - Slit reels
   - Master rolls

6. **COATING**
   - Base film
   - Coated film

7. **SLITTING**

8. **SOLVENT RECOVERY**

9. **BASE FILM**

10. **Drying**
    - Heated cylinders
    - Base film

11. **CASTING**

12. **DESPATCH**

NatureFlex™ key steps in film production:

- **PULPING**
- **DISSOLUTION**
- **CASTING**
- **GAS & HEAT RECOVERY**
- **SLITTING**
- **COATING**
- **SOLVENT RECOVERY**
- **BASE FILM**
- **Drying**
- **DESPATCH**
- **PACKING**
NatureFlex™ overview

- Made from wood pulp - sourced from FSC or PEFC certified foresters
- Clear, White, Metallised, & White Metallised
- Excellent OTR - All grades are better than PVdC coatings
- Range of MVTR’s: From truly Permeable to approx. 4
- Peel seals, anti-static, anti-fog
- Laminate well, achieving much lower MVTR’s as laminates
- All grades are certified compostable and home compostable

- New range of extrusion coated grades for much improved seal strengths and application flexibility
- All extrusion coated grades are compostable to industrial STDs, but not necessarily to home STDs
**Potential End of Life Solutions**

<table>
<thead>
<tr>
<th>Conventional Plastic Films</th>
<th>NatureFlex™</th>
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<tbody>
<tr>
<td>Landfill - entombed</td>
<td>?</td>
</tr>
<tr>
<td>Recycling - no films recycled</td>
<td>✗</td>
</tr>
<tr>
<td>Home composting</td>
<td>✗</td>
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<tr>
<td>Commercial composting</td>
<td>✗</td>
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<tr>
<td>Incineration</td>
<td>✅</td>
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<tr>
<td>Anaerobic Digestion</td>
<td>✗</td>
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<tr>
<td>Flushable</td>
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Performance
Market
Applications
Coffee bag structures - Standard

Qualifying ‘flat-sheet’ targets:
- Moisture barrier <1 (38°C, 90%RH)
- Oxygen barrier <1 (23°C, 50%RH)

**Transparent PET:**
- Stiffness, Heat-resistance, Printability

**Polyethylene:**
- Tenacity, seal-strength, seal-integrity

**Alu-foil or Met.PET**
- Moisture barrier
- Light barrier, gas & aroma barrier
‘Bio’ coffee bag structure

Qualifying Targets achieved

- **Moisture barrier** < 1 \((38^\circ \text{C}, 90\% \text{RH})\)
- **Oxygen barrier** < 1 \((23^\circ \text{C}, 50\% \text{RH})\)

**Transparent NatureFlex:**
Stiffness, Heat-resistance, Printability

**Biopolymer film:**
Tenacity, seal-strength, seal-integrity

**Metallised NatureFlex:**
Moisture barrier
Light barrier, gas & aroma barrier
Finished coffee packs
Standard vs ‘Bio’ Material Barriers

N.b. Final pack barriers vary versus theoretical ‘flat sheet’ barriers
Biofilm packs can now compete directly versus conventional structures
Pack communication

Supported by web site information
Example of applications

Soft Cheese

Hard Cheese

Butter

Smoked Meats

Salami & Ham

Bacon
Example of applications

- Biscuits
- Bakery
- Food Bars

- Dry Foods
- Pasta
- Confectionery
Conclusion - NatureFlex™ ....

MANUFACTURING

RAW MATERIAL

PERFORMANCE

END OF LIFE
Thank you!