

Technologies of Innovation:
Laser in line and holographic lamination for
flexible packaging

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COMEXI GROUP

60 years focus on solutions for flexible packaging

Family Company focus on investigate, design, produce and market products and services for the flexible packaging converting industry

Professional management

500 employees

+100 Million €

+100 countries

Manufacturing plants in Spain, Italy and Brazil.



STRATEGIC LINES

Global supplier

PRINTING

- Flexo
- Gravure
- Offset

LAMINATING
& COATING

- Solvent based
- Solventless
- Water based
- Holography

SLITTING
& REWINDING

- Laser microperforating
- Scribing

PERIPHERAL & ENVIRONMENTAL EQUIPMENT

Cleaning

Logistics

Environmenta

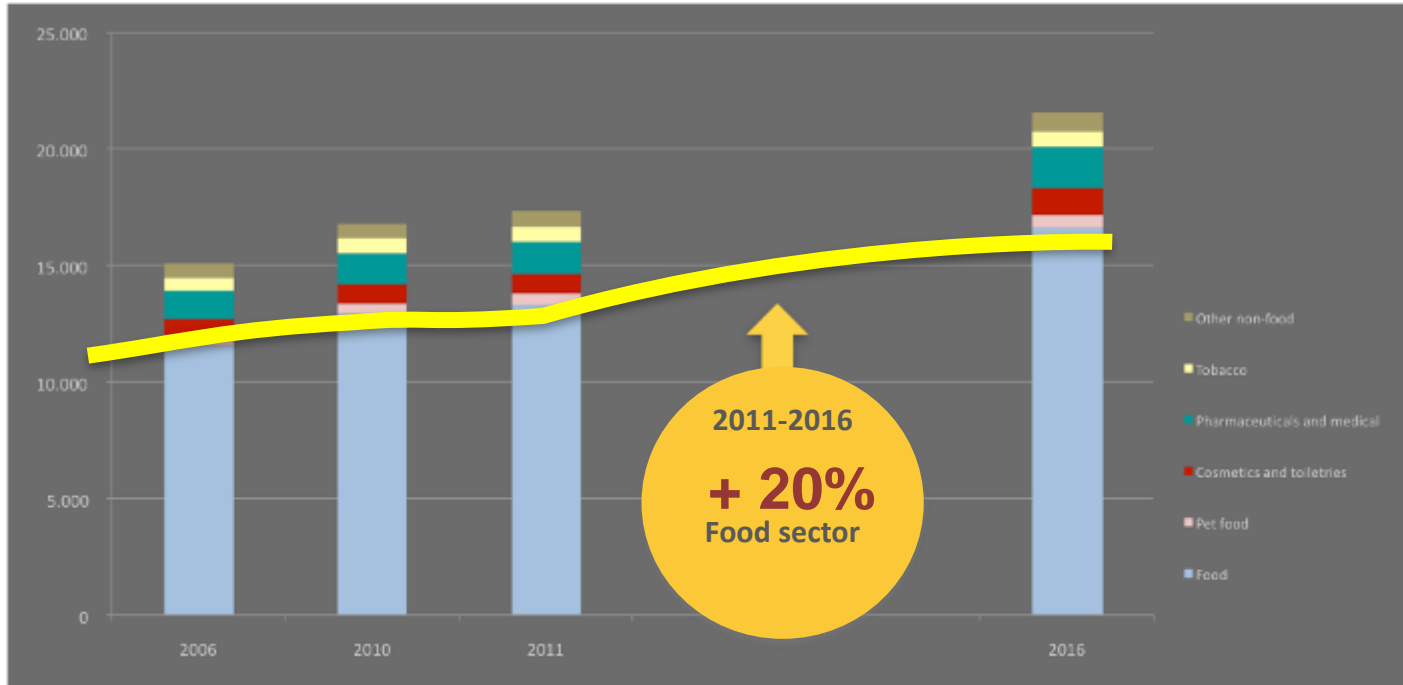
TECHNICAL SERVICES

COMEXI: MANEL XIFRA BOADA TECHNOLOGICAL CENTRE

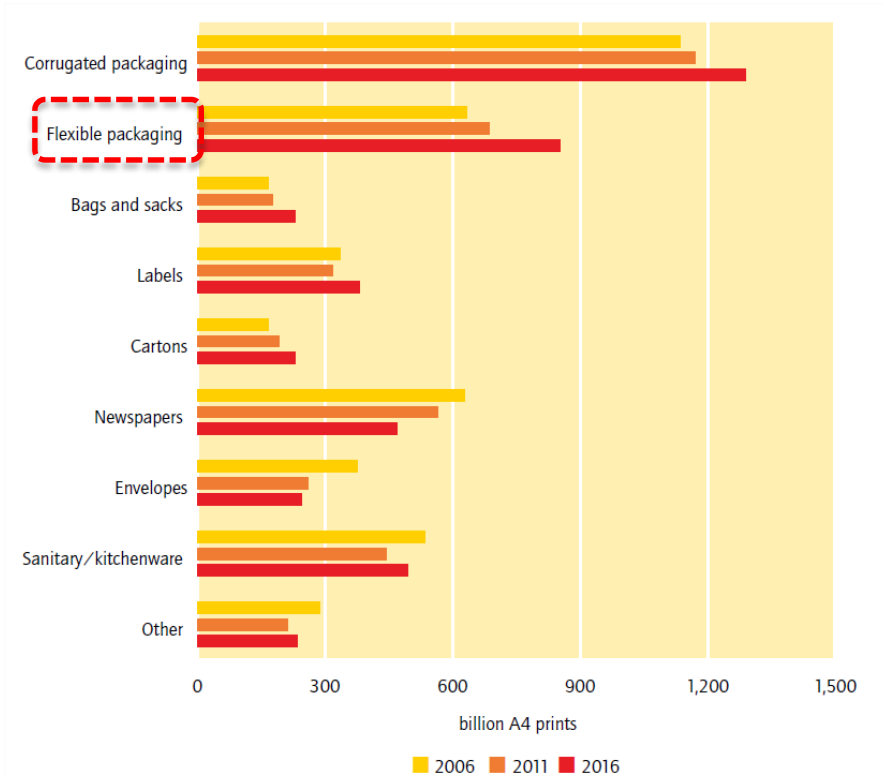
- . Market approach of Flexible packaging
- . Flexible packaging as a tool to respond customers' needs
- . Technologies of Innovation
 - . Comexi Proslit Cingular laser
 - . Comexi Nexus Holography
- . New trends to reinforce the message on the packaging
- . The Manel Xifra Boada Technological Centre as a key driver of knowledge

Despite globally going through economically difficult times, the packaging sector keeps itself on a important base of growth

Worldwide FP Industry estimation



Global flexographic printing output by print product, 2006–16 (billion A4 prints)



Source: Pira international LTD

- Social factors such as the growth of middle class or new ways of life and, therefore, new ways of consuming, affect the products and the growing of flexible packaging.
- The flexible packaging industry must adapt to industrial and social needs that arise with each new product.

Consumer motivations

Consumer needs

**SAFETY /
PEACE OF MIND**

WELLNESS

**GRATIFICATION
/ ENJOYMENT**

**CONVENIENCE
/ FREEDOM**



*"it won't hurt
me, my family
or the planet"*

*"it's really good
for me"*

*"it makes me
feel good"*

*"it's so easy for
me"*

- In a competitive market that is related to an increasingly demanding consumer, manufacturers of the food sector face the difficult challenge of seducing and convincing.
- The converters should analyze in which sector they are and whether it might be interesting to consider differentiation in a market niche where business opportunities in which the differential value of the packaging allows better profits margins

Flexible packaging as a tool to respond customers' needs



Differentiation

In a competitive market a company has to be able to differentiate itself to add value.



It is important to assess the existing and new solutions available in the market in printing, slitting and laminating technologies .

Communication



Flexible packaging as a tool to respond customers' needs

- Approximately 70% of purchase decisions are made at the point of sale.
- we must take into account the areas and communicative tools.
- Effects such as holography can also bring value to the packaging in order to attract consumer attention.

Functionality

- Packaging is not only about containing, but above all it has to be functional and allow the ergonomics that the consumer requires.
- Life expectancy increases, the population ages and also the difficulty to find time to cook is more common. Solutions such as easy-open or microwaveable packaging will facilitate the way of consuming.

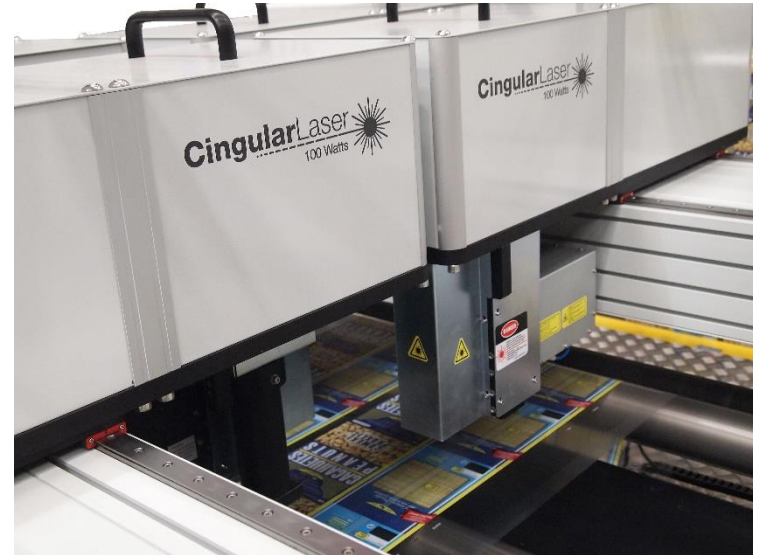


Comexi Group Solutions to satisfy new market trends

- . Comexi Proslit Cingular laser
- . Comexi Nexus Holography

Technologies of Innovation: Comexi Proslit Cingular laser

CingularLaser 
Patent Pending



 COMEXI PROSLIT **Laser in line**



**Microperforation =
FOOD PACKAGING &
LONGER TIME LIFE
PRODUCTS**

**QR
SoftSecurity**

New trends means New applications

**Easy open =
FOOD
PACKAGING**

**Selfadhesive labels =
PRODUCTIVITY &
More widht**

**Marks and
numbering =
PROMOTION &
Soft Security**

Why perforation with laser?

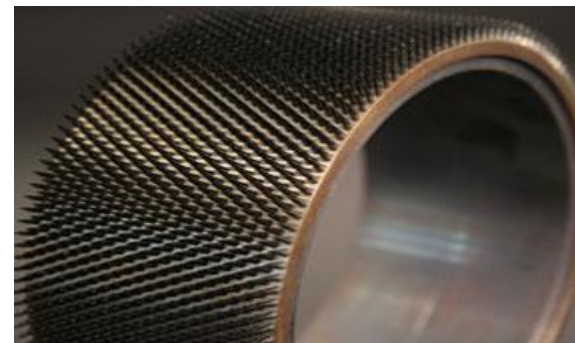
Benefits

What is micro & macro perforation

Technologies of Innovation: Comexi Proslit Cingular laser



The ONLY system able to go under 800 μ is:
LASER



Laser system vs traditional system

- Better for the material to have a laser hole (because it does the donut and strengthens the material=VOLCANO)→ because the punch system debility of material.
- Versatility → Substitution of all actual systems into one system (die cut, hot needles, pneumatical punch, pre-cut score (rotary knife, sheeter machine or cross cutting)).
- Quality of dimension, diameter, forms, synchronization & it can go to register→ same quality without wear
- Durability of laser 25.000 hours

Markets and applications

What can we do?

Sleeve for food



Decorative sleeves for rigid packaging bottles, not to print the PET bottle. **Easy open in the cover, holes to extract air when thermoforming PVC is made, in strategic points lower 500 μ .**

Laser system: 500 μ holes, easy open discontinuous cover.



Protection and prevention of human contact; air vapor exit; **micro perforation** against insects for prevention (Example: ants)

Laser system: 500 μ holes, better image (do not transform the opaque material)

Pouch for coffee



Avoid migration of aromatic components. It is sensitive to oxygen and light → **easy open**, **non-breaking** the aluminum ensures that protection.

Laser system: Only breaks 1 face with different forms, line, hand holes....

Retort microwave venting



Air protection and evaporation in microwave → matrix **micro perforation**; trademarks to ensure material deformation when heating.

Laser system: 200 up to 300 μ holes, it is also possible to make marks or perforations on first face....

Retort Pouch



Container must resist pasteurization or sterilization processes → **easy open**, without breaking the aluminum, gives that protection to the product.

Laser system: Only breaks 1 face with different forms, line...

Dry Food & Snacks



Holes for air evacuation to transport and store more packages → protection and prevention of bacteria (*Bacillus cereus*).

Laser system: 300 up to 500 μ holes

Self-adhesive labels



Labels to make easier the recycling of bottles and low cost.
You can change quickly labels ... →TIME TO MARKET

Laser system: Changing forms by software

Fresh market



Modified Atmosphere Packaging

The aim of MAP for fresh products is to enable controlled gas exchange between CO₂ and O₂ to achieve the correct permeability (breathability,

Laser system:

High productivity, no downtime due to tool change. 50-80 μ up to 200 μ .

 **COMEXI NEXUS** Cingular holography technology



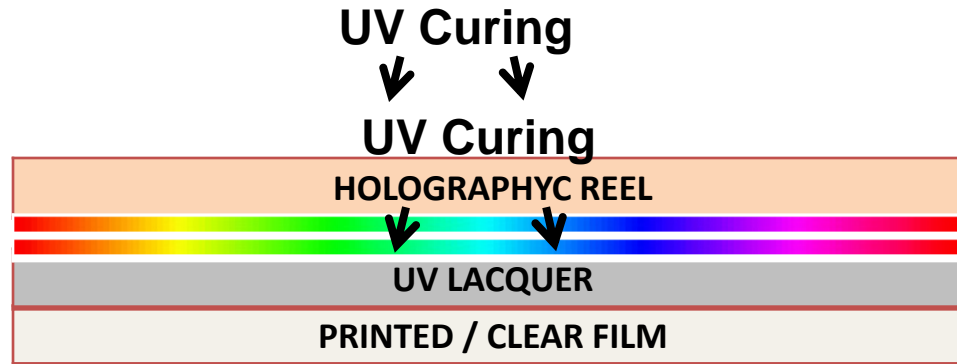
 **COMEXI NEXUS FUTURA**

Cingular holography technology

- Create holographic effects at register on a wide variety of substrates providing distinctive packages with a high visual impact and incorporating counterfeiting features.
- Environmentally friendly; no emissions of VOCs
- Is not required a lamination with a metallized substrate to create holographic effects facilitating the recycling of the package.
- Reduce significantly the cost of final products respect.
- Create high gloss and matte effects at register over a printed substrate as well as Cold Foil effects.

Cingular holography: duplicating

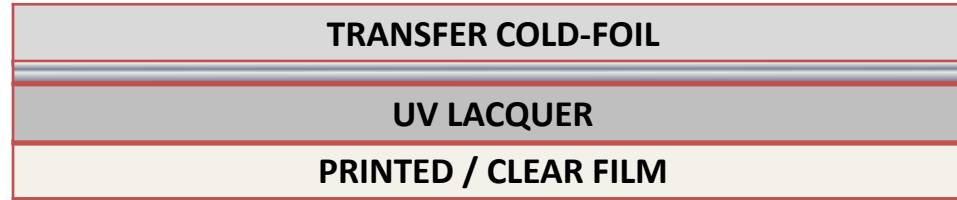
How duplicating works? We “copy” the hologram (relief) to the printed / clear film



Cingular holography: Transfer cold foil

In **Cold-foil transfer**, the original film loses the information as long as it is transferred to the printed film.

UV Curing

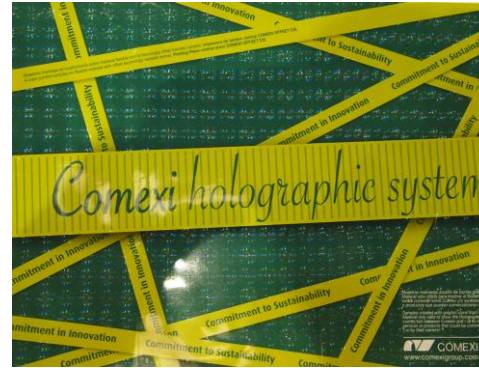


Applications

- UV **cingular holography** duplicating from mother reel to printed or clear web, full coverage or register
- UV **cingular holography** Cold-foil transfer from mother reel to printed or clear web, full coverage or register
- UV Lamination
- Coatings UV at full coverage / register (glossy / matte)
- SL Lamination (optional)

COMEXI NEXUS FUTURA for holography and cold-foil effects

- Unique Process for Packaging to make UV transparent or coloured holographic and cold-foil effects onto a film, at register or full coverage, in Flexographic technology.



What does this offer to our customer?

DIFFERENTIATION and ADDED VALUE



New trends to reinforce the message on the packaging

To conclude we should think about the new trends that reinforce the message. We believe these trends are and will be the following:

- Emphasis on safety (health, food safety)
- Integration of processes (digitization, unification of languages, design)
- New products and new packaging (sophistication, single dose, new materials)
- Super functionality (easy open, easy consumption, ergonomics)
- Exclusive packaging (differentiation, anti-counterfeit, flashy)
- New ranges of communication (purchase experience, social media, advertising campaigns)
- Reduction of serialization (short series, regionalized information, constant renewal)
- Brand interest (corporate social responsibility, promotions, global mindset – local strategy)
- Comprehensive sustainability (lighter packaging, more recycling, bio materials, greater logistical efficiency)
- Traceability (delivery, local products, control of the production chain)

 **CTec Manel Xifra Boada**
Technological Centre of Flexible Packaging
COMEXI GROUP



Consulting

Programs to improve competitiveness and growth in the flexible packaging environment



Innovation services

Creating new categories of products / services



Demo Center / Industrial lab

Last generation machinery fleet available to the customer

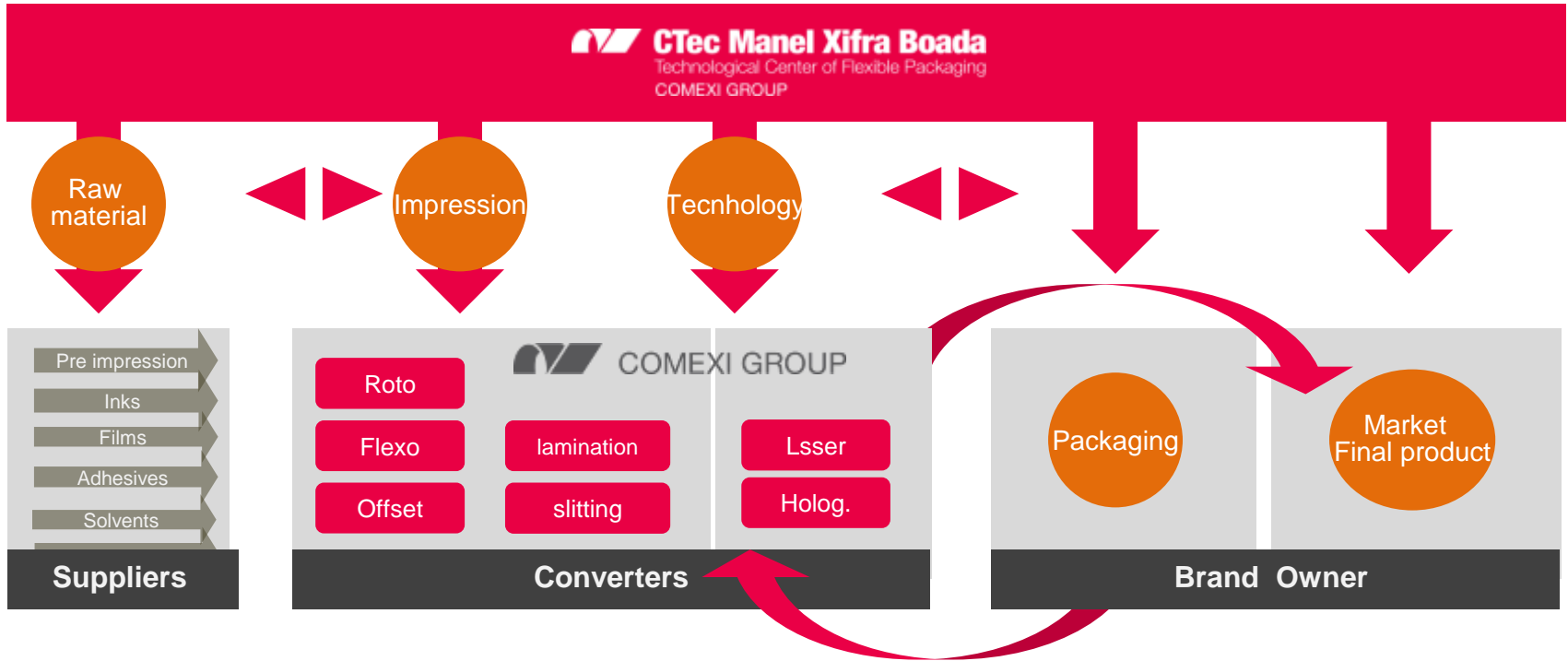


Training and academic activities

Technical seminars, Professional training and Masters' studies



Comexi Group, Specialist in flexible packaging converting processes



Thank you

www.comexigroup.com



COMEXI FLEXO



COMEXI OFFSET



COMEXI ACOM



COMEXI NEXUS



COMEXI PROSLIT



COMEXI ENVIROXI