

Because you care
about CONSUMERS' HEALTH



**FOOD
SAFETY &
QUALITY**

□□□□□ < 0.010 □ μg/l □ /25g □
□ (IU) < 13 □ □ ufc/g □ 0.066 ± 0.038 □ < 10 □

How do we Biopack?

Testing strategies to support EcoDesign

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ma[®]ca
by  **BolognaFiere**
PRIVATE LABEL CONFERENCE AND EXHIBITION

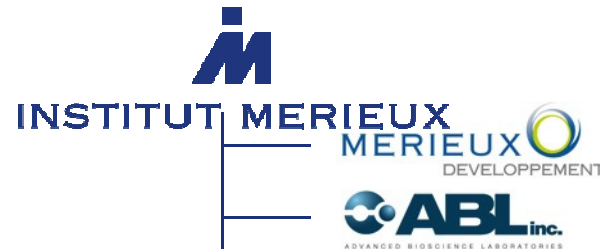
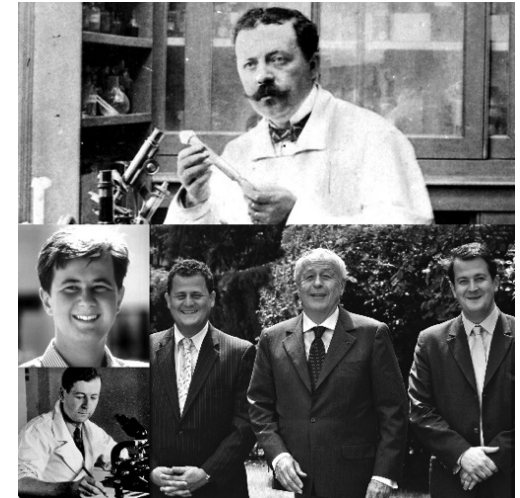
Packaging from eco-design to
smart logistics for reducing
environmental impact

 **MERIEUX**
NutriSciences

The Mériéux Legacy



- Institut Mériéux is an independent, family-owned French group established in 1897 following in the footsteps of Louis Pasteur.
- Serving medicine and Public Health across the globe.



Food Safety and Nutrition

In Vitro Diagnostics

Immunotherapy

The power of a global network



Over **80** accredited laboratories in **21** countries

Geographical distribution of revenues:



Project Center - Packaging & Food Contact material



BUSINESS



- Chemical and micro quality controls
- Food & **Technology Compliance**
- Risk assessments
- Sensory & consumer research
- Compostability studies EN 13432
- Regulatory & Labeling
- Physical & mechanical test
- Auditing & training

ADDED VALUE



- Integrated & Robust Quality Systems
- Dedicated Customer care team and international sales
- Expert knowhow in analytical method development
- Customized solutions
- R&D Project
- Wide range of test
- Confidentiality

KEY FACTS



- 5 Food Contact Experts
- ISO 17025
- More than 6000 migrations test/ year
- Vincotte accreditation for EN 13432
- Participation in the Bioplastics commission
- Collaboration with specialized European Institutions
- Participation annual Proficiency test

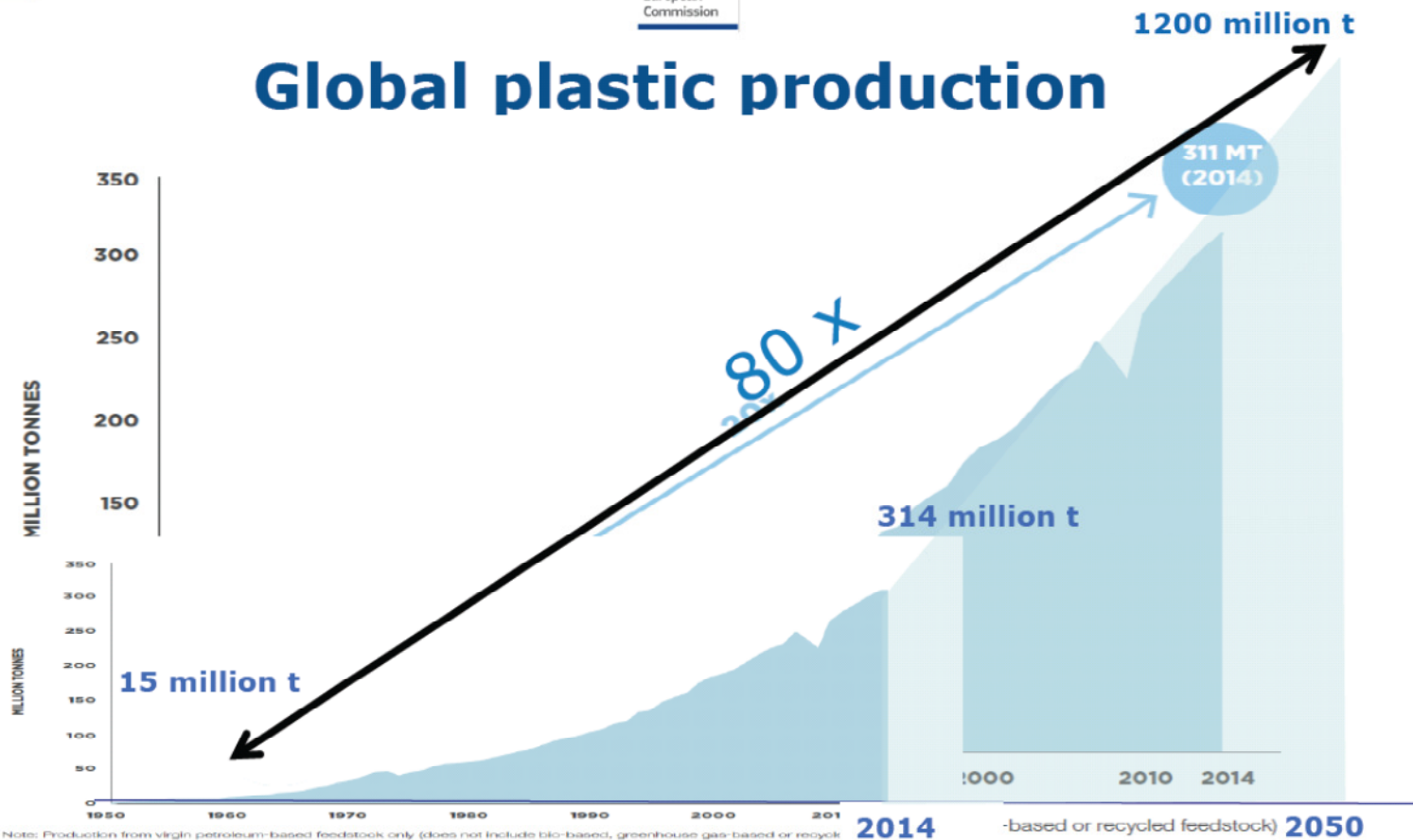
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- Introduction
- Definition
- How can Testing help?
- Case Study
- Conclusion

Introduction



Global plastic production



Note: Production from virgin petroleum-based feedstock only (does not include bio-based, greenhouse gas-based or recycled feedstock).
Source: PlasticsEurope, Plastics – the Facts 2014 (2014); PlasticsEurope, Plastics – the Facts 2016 (2016); PlasticsEurope, Plastics – the Facts 2017 (2017); PlasticsEurope, Plastics – the Facts 2018 (2018); PlasticsEurope, Plastics – the Facts 2019 (2019).



ONE OBJECTIVE: BUILDING A SUSTAINABLE FUTURE

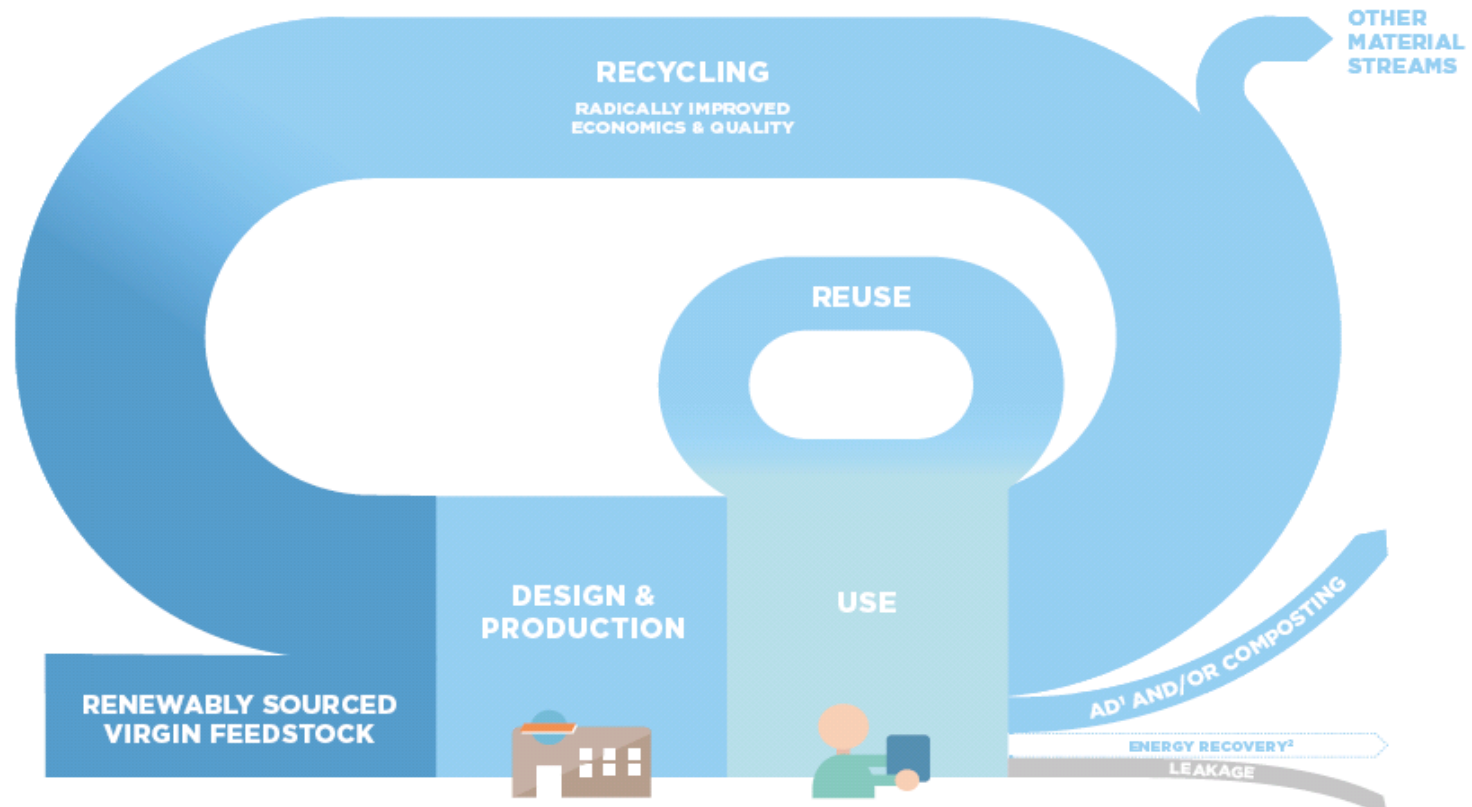
Transition towards a Circular Economy

- Maintaining the value of products, materials and resources in the economy for as long as possible
- Minimizing waste generation
- Boosting our competitiveness with new business opportunities and innovative products and services
- Bringing economic, social and environmental gains



ECOCOMPATIBILITY & ECONOMY

1 CREATE AN EFFECTIVE AFTER-USE PLASTICS ECONOMY



3 DECOUPLE PLASTICS FROM FOSSIL FEEDSTOCKS

1 Anaerobic digestion

2 The role of, and boundary conditions for, energy recovery in the New Plastics Economy need to be further investigated

Source: Project Mainstream analysis.

2 DRASTICALLY REDUCE THE LEAKAGE OF PLASTICS INTO NATURAL SYSTEMS & OTHER NEGATIVE EXTERNALITIES



How *Ecodesign* can help the environment by making products smarter?

I prodotti hanno un impatto sull'ambiente durante il loro ciclo di vita attraverso tutte le fasi, dalla culla alla tomba, compreso l'uso di materie prime, materiali e risorse naturali, produzione, imballaggio, trasporto, smaltimento e riciclaggio.

Più del 80% dell'impatto ambientale di un prodotto è determinata in fase di progettazione.



DG Enterprise & Industry and DG Energy.

I requisiti per la progettazione ecocompatibile non devono abbassare la funzionalità di un prodotto, la sua sicurezza, o avere un impatto negativo sulla sua economicità e la salute dei consumatori.



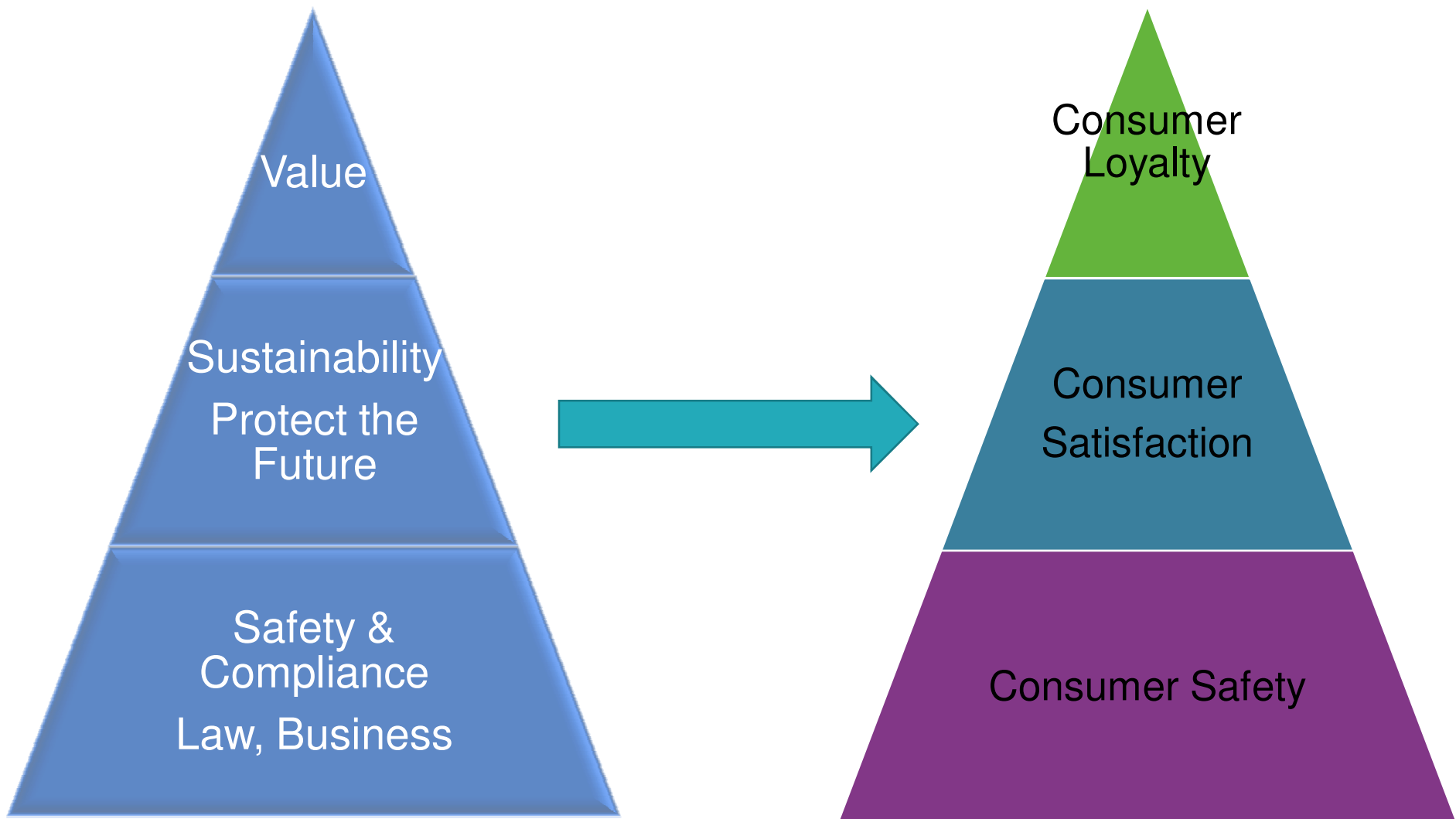
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Packaging Eco

compatibile

- Eco
compatibile- Funzionale
- Economico
- Sicuro

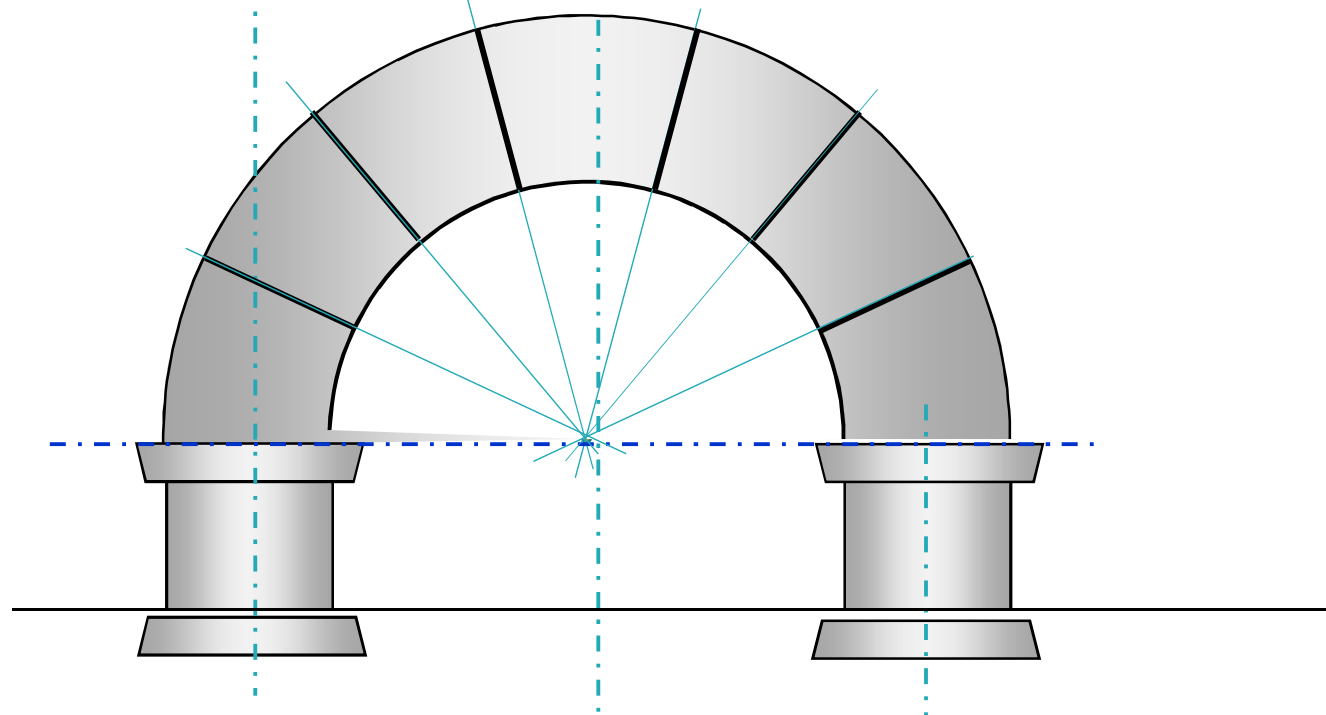
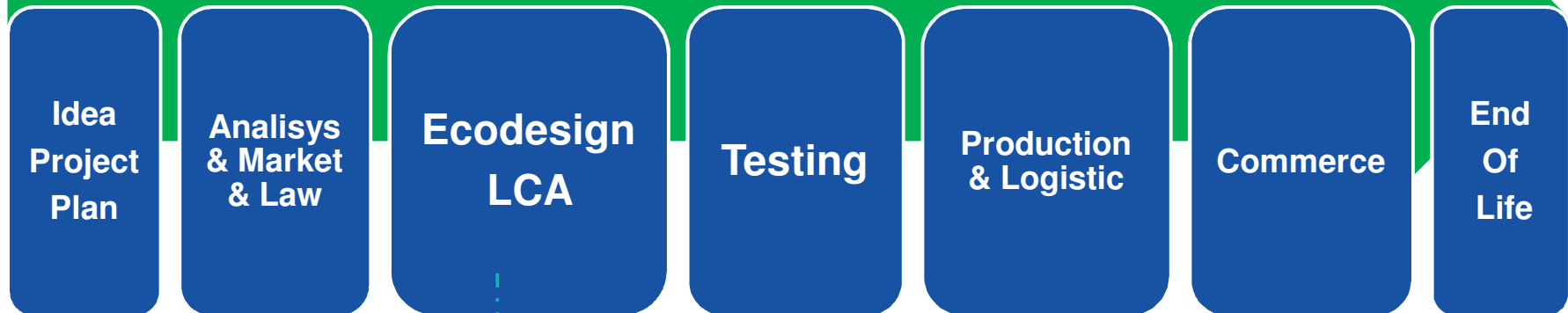
Definition



How can Testing help?



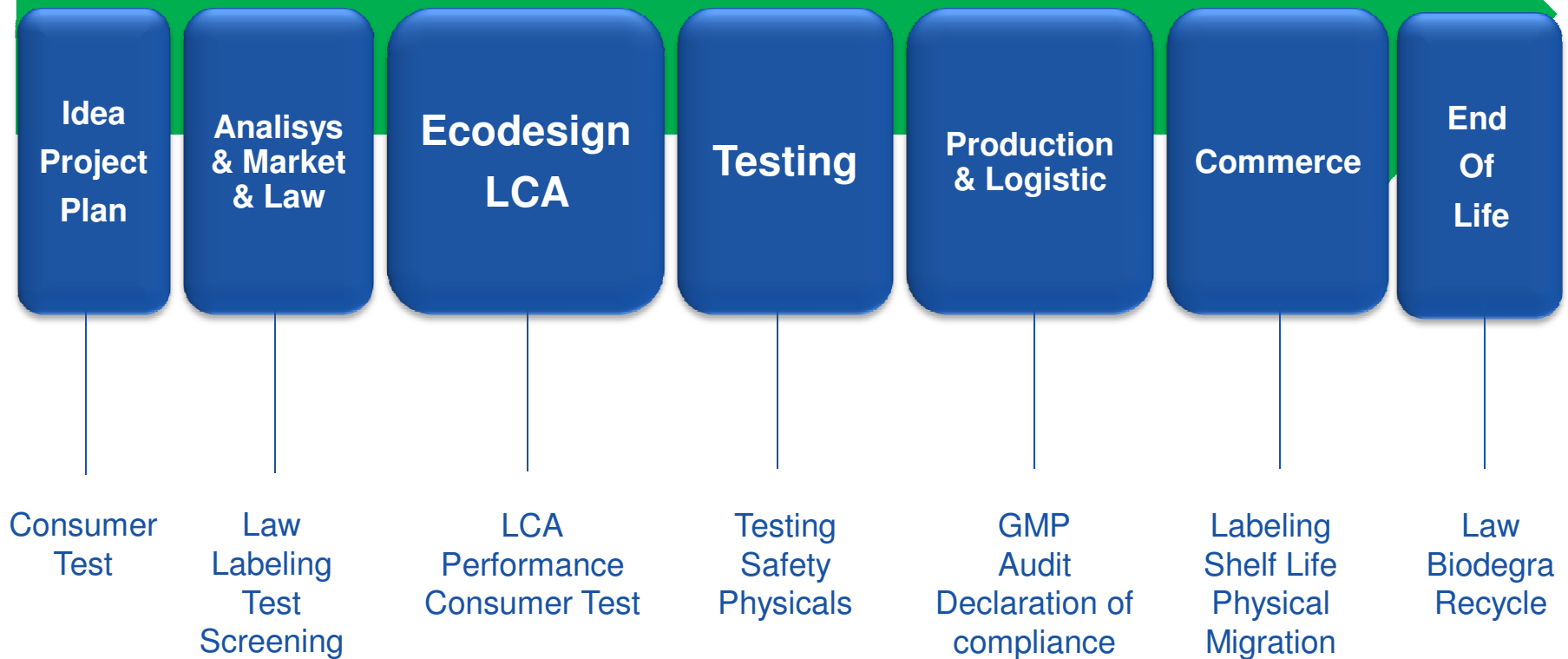
Packaging Product Project



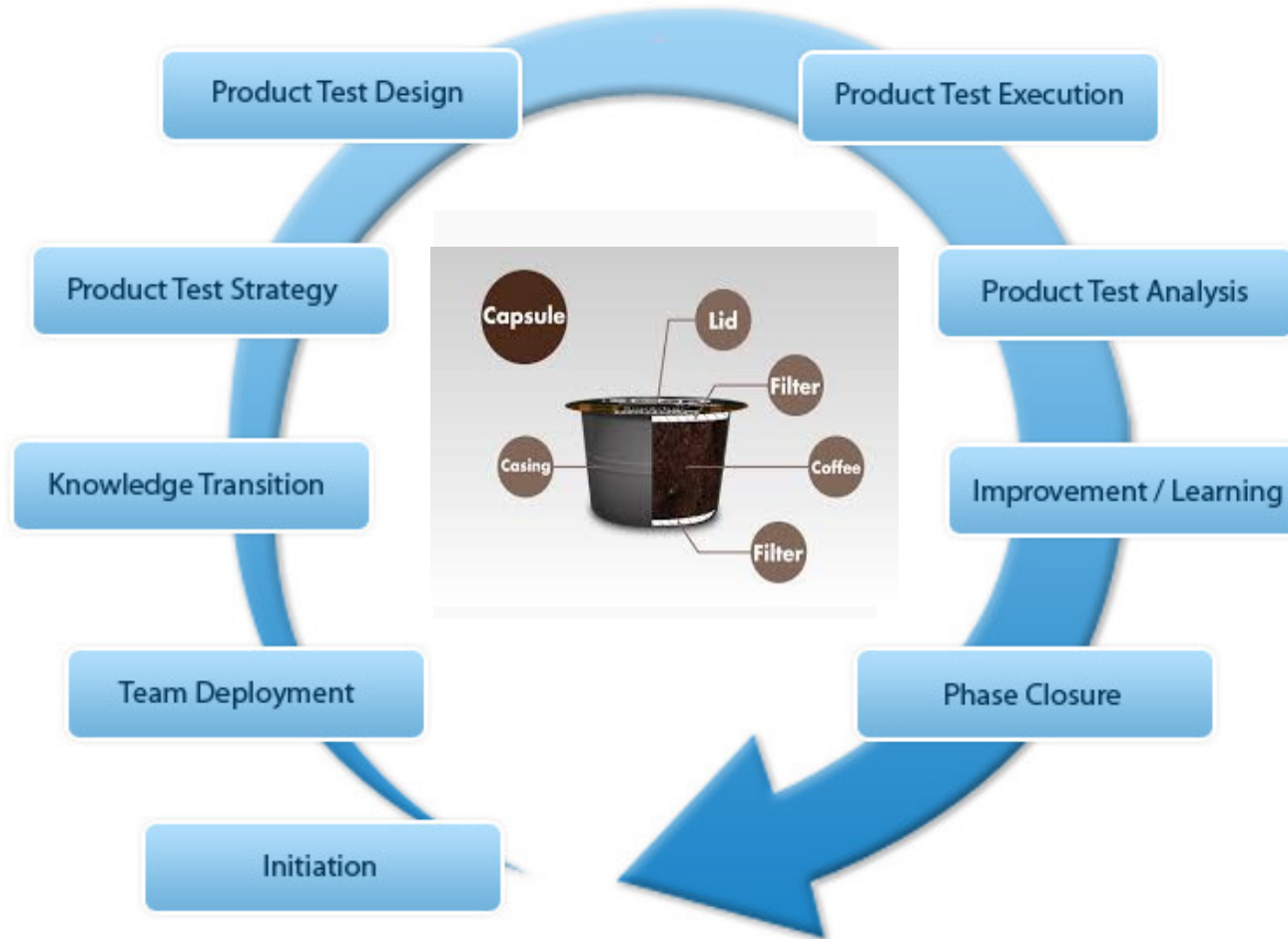
How can Testing help?



Packaging Product Project



Case Hystory Scheme



Case Study: Coffee Caps



CAPSULA DA CAFFÈ

Doppia funzione:

- Contenitore del caffè
Interazione lungo termine
- Mezzo di erogazione:
 - “Estrazione” acqua/vapore
 - Stress termico: temperature circa 90 °C
 - Stress fisico: 10 - 20 bar



Estrazione dalla capsula

Estrazione dal caffè

Complessità legate alla macchina da Caffè

Case Study: Coffee Caps



EXPERIMENTAL DESIGN

Ambiti:

- Sviluppo e Produzione - Scelta del materiale
- Sicurezza e Utilizzo – Contatto alimenti e qualità
- Sostenibilità - Fine vita

Regolamenti coinvolti:

- ALIMENTARE - Reg.10 / 2011 (PIM)
- IMBALLAGGI E RIFIUTI DI IMBALLAGGIO - Direttiva 94/62 / CE

Standard richiesti:

- ALIMENTARE: Migrazioni globali e specifiche –Screening - Sensoriale
- COMPOSTABILITA - EN 13432 - ISO 14855



FOOD CONTACT



Regulations and Standards

European

Regulation (EC) N° 1935/2004 The guiding principle is that the release of substances from food contact materials and articles should not bring about unacceptable changes in the composition of the food.

Commission Regulation (EU) No 10/2011 (PIM) on plastic materials intended to come into contact with food.

Italian

D.M 21/3/73 - Discipline hygiene of (not plastic) packaging, containers, utensils, intended to come into contact with the food.

International: FDA – BfR

Testing

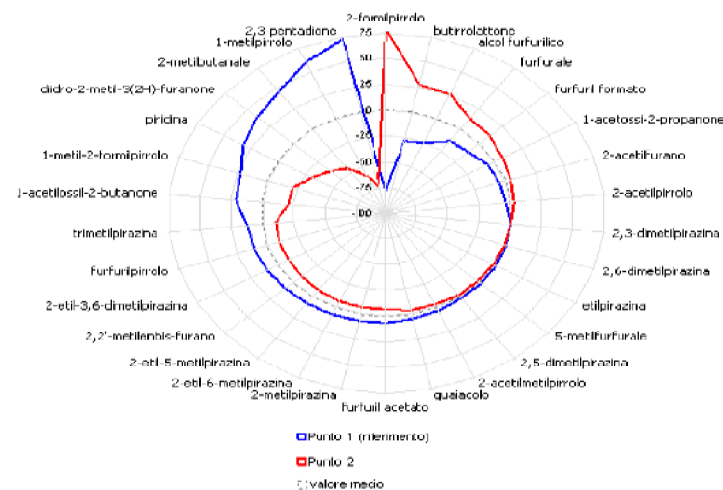
Overall Migration (OM) :

Specific Migration (SM) :

Risk Assessment:

NIAS

Figura 1 – Aromagrammi del caffè in capsule



END OF LIFE



Regulations and Standards

Directive 94/62/EC on packaging and packaging waste provides for essential requirements that need to be met by packaging which is claimed to be biodegradable.

Testing

EN 13432:2000 – “Packaging: requirements for packaging recoverable through composting and biodegradation”.

Key tests and Pass / Fail criteria are:

Characterization and Hazardous Substances

Biodegradability (ISO 14855)

Disintegration . (ISO 16929, EN 14045)

Quality del Compost and Ecotoxicity : (OECD 208)

Recognizability: The packaging must be recognizable as compostable (biodegradable) by the end user by appropriate means. (OK Compost - Seedling Mark).

European standards : EN 13432- EN 14995 -DIN V 54900

International Standards :ASTM 6400–ISO 17088



compostable



Capsule BIO vs Polimeri Tradizionali

- Entrambe le capsule sono conformi: in entrambi gli studi in condizioni d'uso non si evidenziano parametri critici (analisi sull'erogato e sul caffè)
- Sostanziali diversità nei risultati
- Maggiore affinità del polimero BIO con l'acqua (Migrazione Globale EtOH20% più alta)
- Buona corrispondenza tra il risultato della OM e la valutazione semiquantitativa dello screening
- MPPO: si è confermato un "buon" simulante anche per polimeri biodegradabili (ritrova additivi presenti sul TQ)
- Presenza maggiore di additivi nella capsula Bio 1
- Possibile criticità nel polimero tradizionale legata alla migrazione di idrocarburi



- Sicurezza e conformità di un prodotto sono la base per la creazione di valore condiviso
- La valutazione della sicurezza per aiutare il riutilizzo, l'uso di bioplastiche e di materiali riciclati è una sfida complessa che richiede delle basi solide costruite in fase di design
- L'Eco-design permette di valutare e migliorare le prestazioni e sembra la via più percorribile ad un futuro (prossimo) sostenibile

Contact



Vi aspettiamo allo stand Mérieux NutriSciences



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