



# **FIGHTING MARINE LITTER: THE CONTRIBUTION OF PLASTICS WHICH ARE BIODEGRADABLE IN THE MARINE ENVIRONMENT**

**AN OPPORTUNITY  
FOR THE ENVIRONMENT  
AND FOR THE EUROPEAN  
BIOPLASTICS INDUSTRY**

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# CURRENT CONTEXT

- ▶ **EU PLASTICS STRATEGY** : vision contributing to the political debate at EU level
- ▶ **LEGISLATIVE PROPOSAL** for a Directive on the impact of certain plastic products on the environment
- ▶ Decision-making is now at the level of the European Parliament and Member States
- ▶ In this context, this presentation is :
  - ▶ **A TESTIMONY** on the current status of our research on biodegradable plastics in the marine environment
  - ▶ Our perception on what is now needed for the issue to progress

# SPHERE GROUP PROFILE

- ▶ Founded in 1976 in France by Mr John PERSENDA, SPHERE is a **MEDIUM SIZE INDEPENDENT EUROPEAN GROUP**.
- ▶ **A LEADING EUROPEAN PRODUCER of HOUSEHOLD PACKAGING**, and one of the main worldwide producers of **BIODEGRADABLE RESINS ( with BIOTEC )**.



**Plants: 14**

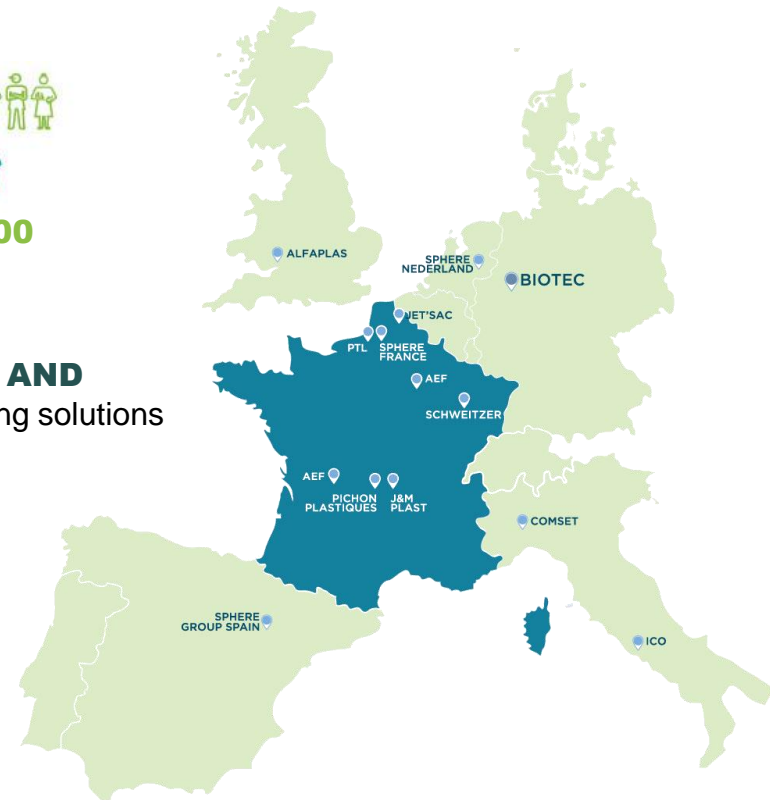


**Sales: €550m**



**Employees: 1400**

- ▶ **5% OF REVENUES INVESTED IN R&D**
- ▶ SPhere offers **INNOVATIVE, HIGH-PERFORMANCE AND ENVIRONMENTALLY-FRIENDLY** household packaging solutions
  - ▶ **PLASTICS BAGS**
  - ▶ **FOOD-CONTACT PACKAGING**
- ▶ Markets: **CONSUMERS, PROFESSIONNELS, LOCAL AUTHORITIES**



- ▶ Established in 1992 in Germany
- ▶ One of the historical European leaders in bio-based and biodegradable plastic resins
- ▶ More than **200 PATENTS** and patent applications worldwide
- ▶ Research, Development and Production of completely biodegradable materials :
  - ▶ **BIOPLAST** range
  - ▶ **BLUEPLAST** range
- ▶ Key specialty :
  - ▶ No plasticizers
  - ▶ GMO free raw material (potato starch)
- ▶ Joined SPhere Group in 2005

# SPHERE : A LEADING PLASTIC CONVERTER FULLY DEDICATED TO THE ENVIRONMENT

## ▶ PRIMARY GOALS:

- ▶ Design products according to their end of life
- ▶ Stop using fossil virgin plastic raw material

## ▶ A THREE-PILLAR STRATEGY FOR PLASTIC RAW MATERIALS BASED ON:



**RECYCLED PLASTICS**



**BIO-BASED PLASTICS**



**BIODEGRADABLE/COMPOSTABLE  
PLASTICS**

# BIO-BASED vs BIODEGRADABLE

- ▶ « **BIO-BASED** » refers to the **ORIGIN** of the raw material : from renewable resources or not.
- ▶ « **BIODEGRADABLE** » refers to the **END OF LIFE** of the product.
- ▶ A material can be :
  - ▶ 100 % bio-based
  - ▶ and still not at all biodegradable  
=> natural rubber for instance
- ▶ A material can be :
  - ▶ 100 % fossil based
  - ▶ and still 100 % biodegradable  
=> copolyesters used in bioplastics

# WHAT DOES « BIODEGRADABLE » MEAN ?

- ▶ « **BIODEGRADABILITY** » is an intrinsic characteristic of a material enabling it to be bio-assimilated by micro-organisms
- ▶ But in real life, the surrounding environment is a key parameter to know how long this bio-assimilation process will take :
  - ▶ Industrial compost
  - ▶ Home compost
  - ▶ Soil
  - ▶ Marine environment

} **are very different conditions**
- ▶ Different norms, tests methods and certification schemes exist today, with temperature and timing adapted to the environment.
- ▶ **But no single exhaustive and global norm at EU level on plastic marine biodegradation**

# THE EUROPEAN INDUSTRY IS PROGRESSING ON MARINE BIODEGRADABILITY

- ▶ It **IS** possible to have plastics which are “eaten” by marine micro-organisms and which will disappear in a short period of time in a non toxic way.
- ▶ Biodegradable plastics are **NOT** traditional plastics. Their molecular structure is **VERY DIFFERENT** from regular plastics, making them attractive for micro-organisms to “eat” them.
- ▶ Biodegradable plastics are **NOT** oxo-degradable plastics. Even small fragments of biodegradable plastics are “eaten” by micro-organisms.
- ▶ Marine biodegradable plastics :
  - ▶ are **NOT** hydro soluble plastics, because they must resist under rain
  - ▶ should be as resistant as regular plastics when used.

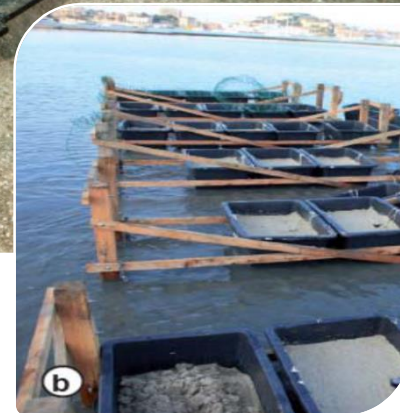


# A VERY POSITIVE REGULATORY TREND IN THE EU

- ▶ The Plastic Strategy and the legislative proposal for a Directive on the reduction of the impact of certain plastic products on the environment are addressing the key challenges facing the plastic industry.
- ▶ Marine environment requires specific marine biodegradation to allow plastics to help in marine litter.
- ▶ Public efforts on education, prevention, collection schemes, avoiding unnecessary uses, ... will never totally stop leakage of plastics in marine environment.
- ▶ **The plastic industry must also contribute to this fight against marine litter with technical innovations**

# AN EXAMPLE : THE “BLUEPLAST” BIOPLASTIC FROM BIOTEC-SPHERE

- ▶ Our R&D laboratory has developed different formulations of **BLUEPLAST** marine biodegradable resin,
- ▶ which disintegrate and bio assimilate within less than 3 months



# AN EXAMPLE : THE “BLUEPLAST” BIOPLASTIC FROM BIOTEC-SPHERE



# AN EU NORM ON MARINE BIODEGRADATION MUST BE QUICKLY DEVELOPPED

- ▶ This EU norm must address :
  - ▶ disintegration of plastic material
  - ▶ bio assimilation by micro-organisms
  - ▶ non-toxicity at any stage

- ▶ Communication issues must also be addressed :

Marine biodegradation is a “technical back-up” solution when a piece of plastic gets into the marine environment.

But such plastic products should still be marked with “do not throw away” as other plastic products.

# CONCLUSION

Message to the EU Parliament, to the Commission and to the Member States :

- ▶ Addressing the issue of marine biodegradation, you are in the **right direction** for the Environment.
- ▶ An **EU norm** on plastic marine biodegradation should be defined **without losing time**, as called for by the Commission.
- ▶ The EU industry is already working on these plastics, ahead of its competitors and will be able to **create jobs** in the EU with your regulatory and normative support.

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