

# BIO-MIMETIC

New bio-inspired processes and products  
from renewable feedstocks

CONSORTIUM: 10 partners

EU GRANT: €3,5M

GA N°: 282945

COORDINATOR: P&G



## CONCEPT

The BIO-MIMETIC project demonstrated the use of renewable resources as a strategic alternative to fossil fuels: different types of biomass have been used as source of lignin

Starting from different biomass sources BIO-MIMETIC was able to obtain homogeneous and constant batches of lignin. Lignin has been transformed in the new bio-polymers thanks to environmentally friendly enzymatic processes developed within the project and involving the enzymes laccases, tyrosinases, lipxygenases.

By using the new bio-polymers, 4 Household care and beauty care consumer products have been obtained within the project: an Automatic Dishwashing, a Compact Hard Surface Cleaner, a Skin Cream and a Skin Masks. A life cycle assessment has explored the environmental sustainability of the production of the new bio-polymers, and when used in four different consumer products.

The specific objectives of the project are to:

- Design and develop processes for the transformation of biomass feedstock.
- Develop and validate the performance of these novel bio-

derived polymers for application in household products such as detergents and new bio-based cosmetics such as emulsions for beauty care use and textiles;

- Quantify the environmental benefits and economic prospects (using life cycle assessment and life cycle costing) of the intermediate (bio-processes) and final (bio-based products) results, taking into account the whole value chain from biomass transformation towards integration into end-user products.

## BENEFITS

BIO-MIMETIC will provide solutions that are environmentally friendly as well as competitive from the environmental and economic points of view:

- Reduced CO2 footprint, by replacing fossil feedstock with biomass feedstock
- Elimination of toxic/harmful solvents compared to synthetic alternatives;
- Reduced energy intensity within safer and cleaner production processes at room temperature, reducing the dependence on fossil energy and reducing the release of greenhouse gases;
- Re-use waste from the sheries industry, by combining BIO-MIMETIC polymers.



## CIMV CONTRIBUTION

CIMV was in charge of supplying raw materials (lignin) to all partners in the consortium.

COMPLETER CONTRIBUTION CIMV AU PROJET

Contribution to the Bioeconomy



[www.biomimetic-eu-project.eu](http://www.biomimetic-eu-project.eu)



## 7th FRAMEWORK PROGRAMME

The complete name of FP7 is 7 th Framework Programme for Research and Technological Development . It will last for seven years from 2007 until 2013. The programme has a total budget of over € 50 billion. This represents a substantial increase compared with the previous Framework Programme FP6 (41% at 2004 prices, 63% at current prices), a reflection of the high priority of research in Europe.

Indeed, FP7 is a key tool to respond to Europe's needs in terms of jobs and competitiveness, and to maintain leadership in the global knowledge economy.

This money will (for the most part) be spent on grants to research actors all over Europe and beyond, in order to co-finance research, technological development and demonstration projects. Grants are determined on the basis of calls for proposals and a peer review process, which are highly competitive.

In order to complement national research programmes, activities funded from FP7 must have a “European added value”. One key aspect of the European added value is the transnationality of many actions: research projects are carried out by consortia which include participants from different European (and other) countries; fellowships in FP7 require mobility over national borders. Indeed, many research challenges (e.g. fusion research, etc), are so complex that they can only be addressed at European level.

But in FP7 there is also a new action for “individual teams” with no obligation for trans-national cooperation. In this case, the “European added value” lies in raising the competition between scientists in fundamental “frontier” research from the national to the European level.

FP7 is the natural successor to the previous programme, FP6. It is the result of years of consultation with the research community from both the public and private sectors, with economic actors, and with political decision makers in Europe. FP7 is both larger and more comprehensive than its predecessors. It is also more flexible, with simplified procedures.

The Framework Programmes for Research have two main strategic objectives:

To strengthen the scientific and technological base of European industry;

To encourage its international competitiveness, while promoting research that supports EU policies.