

BIOSMART App

An application for modern packaging design

Contact

HES-SO Fribourg
 Prof. Jean Hennebert
 jean.hennebert@hefr.ch

HES-SO Fribourg
 Lorenz Rychener
 lorenz.rychener@hefr.ch

Keywords

- Bio-degradable packaging
- Multi-criteria optimization
- Environmental/economic factor calculations

Our skills

Data management, Machine Learning techniques

Valorization

Enabling design of bio-based packaging in regards to targeted material properties

Partnership

- GEA Westfalia GmbH
- WIPAK Walsrode GmbH
- TecSense GmbH
- IK4-Tekniker
- University of Reading
- Lipofabrik SAS
- University of Lille
- Institute in Food and Biotech., C.Viollette
- PICC, iRAP, ChemTec – HES-SO
- ITENE
- Invention AB
- Propagroup S.p.A.

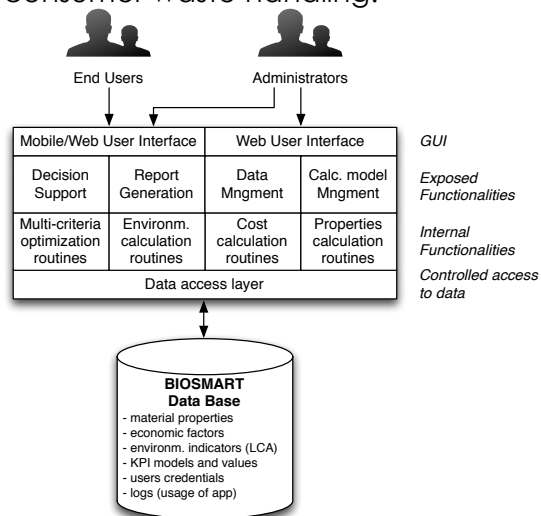
Funding

European Union Horizon 2020

Schedule

2017 - 2021

The European project **BIOSMART** aims to develop **active and smart bio-based and compostable packages** that make possible: light weighting, reduced food residues, shelf life monitoring, longer shelf life and easier consumer waste handling.



In this project, the role of iCoSys is to bring expertise in the treatment and analysis of the data generated by the other project partners.

A web application is created that facilitates the design packaging solutions, with regards to the desired **packaging properties**, such as transmission rates, brittleness and other physical properties.

An important interest of the industrial partners is in the **multi-criteria optimization routines** that we are currently developing. A typical target is to minimize the cost per square meter of a package while respecting the constraints of pre-set transmission rates. The transmission rates are important in packaging as they give an indication of shelf-life of the food product. Further, it is a goal to **propose** bio-based and compostable **alternatives** to the classic packaging solutions.

Additionally, the correct disposal of plastic packaging is not always trivial. Therefore, there is the development of a mobile application allowing to scan a product **barcode** and to display information about the different package designs and polymers and their **correct disposal** in planning.