

## Improvement of BIolubricant Manufacturing and Development thanks to the Obtaining of EcoLabels in a wide Range of Industrial Sectors

### Introduction

More than 95% of the lubricant market is dominated by mineral oils, which are contaminating the environment but have a very low price and high availability. As 30% of lubricants used in the industry ends up in the ecosystem, it is very easy to understand why some countries are more and more attracted by the bio-lubricant alternative. Vegetable oils have a number of inherent qualities that give them advantages over petroleum oils, but up to now there is low experience in their uses and many limitations have to be overcome.

The project IBIOLAB intends to help SMEs of the bio-lubricant sector to develop new bio-lubricants, enhance the market share of the bio-lubricants and thus reinforce their competitiveness.

### Project Objectives

The enhancement of market penetration of the bio-lubricants will be achieved through the following main objectives:

- To increase the performances of the bio-lubricants through the development of new processes for improved base lubricants.
- To decrease the overall cost of bio-lubricants.
- To evaluate comparative environmental lifecycle incorporating cost effects.
- To promote the use of bio-lubricants through extensive campaigns of communications and through the labelling of at least one generic bio-lubricant for each application indicated in the Euro-Ecolabel.
- To enhance the knowledge-base of SMEs on the bio-lubricant issues.

### Partners

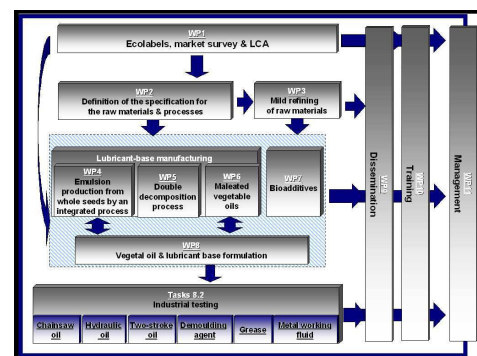
The IBIOLAB consortium consists of **4 associations (IAGs), 12 SMEs and 6 RTD performers**, coming from 7 European countries. ITERG coordinates the project.



The role of associations (**Agragex, Fediol, Onidol, Valbiom**) is to **disseminate publishable information** to their members and **organise events** during the project.

### Work Programme

The project is made of **11 work packages** detailed below :



The achievement of these tasks will permit to implement radical innovations:

- Development of a specific **mild refining process** of raw materials
- Production of a vegetable oil directly **emulsionable**
- Development of a double decomposition process for **saponification**
- Development of **new lubricant bases and bio-additives**

### European Ecolabel

The EU Ecolabel sets requirements for the **ecological and technical characteristics** of lubricants. These criteria are developed for applications in which there is a high probability of accidental exposure of the lubricant to sensitive environment (**high risk lubricants**) and for lubricants which end up virtually entirely in the environment (**loss lubricants**).

#### Applications

Concrete release agents



Hydraulic fluids



Greases



Two-stroke oils



Chainsaw oils



Other total loss lubricants



European Ecolabel

#### Requirements

Application	Technical requirements	Ecological requirements
Hydraulic fluids	ISO 15380	Ecotoxicity
Greases	KWF criteria	Renewability content
Two-stroke oils	NMMA certification	Biodegradation
Chainsaw oils	Proof of « fit for purpose »	Bioaccumulation
Concrete release agents		Restriction of hazardous substances
Other total loss lubricant		

### Training and Dissemination

**Training courses** are planned for **members of the IAGs and SMEs** participating to the project.

The first 2 themes to be identified are:

- **EcoLabels and European Ecolabel,**
- **Mild refining process and fractionation.**

The training courses will be held during **LUBMAT workshop**, at San Sebastian (3-5th June 2008).

Ibiolab project has an **official website** [www.ibiolab.com](http://www.ibiolab.com).

Partners attended to several **meetings and events** in order to disseminate publishable results. Here are a few examples:

- Agricultural Tradefair **EUROTIER** 14-17 November 2006 Germany
- **Congress UEIL**, 25-26 October 2007, Spain
- Third International **Conference on Renewable Resources & Biorefineries (RRB3)**, 4-6 June 2007, Belgium