

## Micro-Lubrication

2009-2010

### Axe(s)

Composites  
& Processes  
Metallic Alloys  
& Processes

### Industries

Tecnolub  
BfB Oil Research  
Numflo  
Taipro Engineering

### Research Bodies

ULB  
ULg

### Total Budget

1,2 M€

### Type

R&D



The MicroLub project aims to develop an innovative technique for micro-lubrication of cutting tools for various manufacturing machines.

The following benefits are expected:

- strong reduction of the oil consumption (with a target of at least 50% relative to existing Tecnolub micro-lubrication systems, but up to 85% compared to conventional solutions of lubrication);
- more efficient use of oil lubrication and cooling by use of localized and optimized micro-jets to form an oil film;
- optimum composition of the lubricating biphasic mixture (air-oil, air-oil-nitrogen, ...) according to the machined material, thereby optimizing the use of the lubricant mixture to specific cutting conditions;
- the use of adapted lubricants, bio-resistant and bio-degradable;
- a secure and effective regulation of flows and operating conditions of the lubricating fluid.

In addition to the advantages mentioned above, this innovation will also:

- get dry or dryer chips that can be more easily recycled;
- improve the working environment in workshops, greatly reducing pollution and odors.