



# armélio

INDUSTRIAL CREATIVITY

*The multiphysics engineering specialist for process development and product manufacturing*

## Approach & skills

### Innovation

*Strategic watch* Detecting product opportunities and emerging processes

*TRIZ methodology* Develop new concepts of products and processes

*Multiphysics simulation* Evaluate process feasibility in pilot study

### Development

*Data processing* Analyse the physical phenomenon involved in the process control

*Multiphysics modeling* Simulate physical phenomenon and demonstrate their effect on the manufactured product

*Experimental plan* Identifying and experimentally testing the effect of control parameters

*Design to cost approach* Optimize equipment investment and consumables

EnvirProd SAS capital of 65 000 € - Siret 523 546 703 EVRY- N° TVA FR19 523546703

7 avenue de l'Atlantique - 91955 Courtabœuf Cedex FRANCE

Phone : +33 (0)1 69 07 64 87 - Fax : +33 (0)9 81 38 55 17

[www.armelio.com](http://www.armelio.com)

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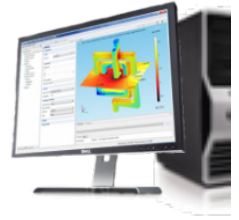
- **Our product proposition**

Concept design based on new process implementation (composite and metallic parts)

Performance qualification by numerical simulations or experiments

Qualification of organic products aimed at the automotive market

Optimization of the length life in service, Design-to-cost



- **Our process proposition**

Realization of Innovative means of production and equipment

Design and implementation of a micro soldering station

Layout optimization, flow control and ergonomic study of working post (reliability, scrap reduction...)

Improving productivity by optimizing locations in the areas of mechanical and pharmaceutical

Multiphysics simulations of process (comsol ®)

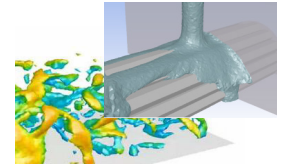
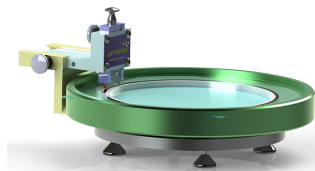
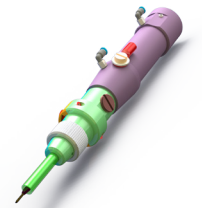
Optimization of the efficiency of heat exchange and microfluidic simulations on bipolar plates

Consulting missions to improve means of production performances.

Improvement of the cycle time of an induction heating equipment

Developement and implementation of simplified computational tools to control process parameters (applications owned by customer)

Optimization software fort peening tools and predicting temperatures of mechanical based heating methods...



- **Our expertise**

Specialists in assembly and manufacturing process, surface treatment, heat transfert, thermomechanical and fluid machanics.

Metallic and composite materials

Audits and recommendations for technical and economical convergence in product / process design

