Launchers
Satellites
Balloons
Transversal competencies



The company ENVIRPROD, under the trade name ARMELIO, allows us to place physics at the heart of the analysis of products and processes in order to remove the locks of our customers.

- Our way of operating is adapted to each customer's problem to: Understand, Solve then Explain and Transmit.
- Engineering, consulting and training activities, mainly on product and process innovation projects with a strong digital approach (ISO 9001)

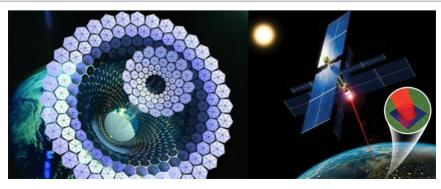
COMPETENCIES & CAPABILITIES

A large range of skills and experiences:

- · Focus on different physics and technologies
- Team of experts in product and process physics
- Team of experts in special processes (manufacturing, control)
- · Al and data processing tools development
- Product and process development at target cost
- Management & realization of test campaigns (Design Of Experiments).
- Analysis of complex failures (in production and in service)

Partnerships for global answers: INOPRO (Mechaflow simulation), THEMATYS (Photonics), COMAT (space equipment).

Regional locations: Les Ulis (Paris area), Vernon, Grenoble with INOPRO, Toulouse with COMAT.



Technical and economic analysis of power transfer scenarios between spaceships

ENVIRPROD / ARMELIO

PRODUCTS & SERVICES

A large range of skills and experiences:

- Strategic, scientific and technical watch, patents, competitors, research of solutions, road map, creativity methods (TRIZ)
- Technical and economic analysis of products, processes & production
- Development of digital tools to reduce costs and simulation time
- Physical analysis and demonstration through digital simulation completed by POC or prototypes
- Design justification
- Optimization of product performance (cost, mass, lifetime)
- Development of functional digital twins
- Study and simulation of logistics and production workflows.
- Layout study and production management, Value Stream Mapping
- Study and management of investments, writing of specifications
- Study of industrialization at target cost, cost reduction
- Automation of operations, workstation ergonomy
- Performance improvement in manufacturing (study and implementation)

MAJOR SPACE PROJECTS & REFERENCES

- Ariane 5: Industrial layouts for cost reduction
- Ariane 6: Factory dimensioning for nozzle production, CPP process analysis by infusion, CPP factory dimensioning by winding
- Vinci-Vulcain: Industrial optimization (processes, automation, quality, costs)
- Prometheus: Definition of industrial scenarios and cost optimization
- Callisto & Themis: Analysis of revalidation scenarios for reusable stage
- Innovative programs: Evaluation of the principle of solar electric energy gathering and transmission, Reduction of the development cycle time of a space launcher
- R&D programs: electric propulsion for satellites, balloon gondola, pyrotechnics innovation, chemical machining applications.
- Miscellaneous: Simulator for launcher exploitation balance sheet

POINT OF CONTACT

ADDRESS 1, rue de Terre Neuve Mini Parc du Verger Bâtiment C ZA de Courtaboeuf 91940 Les ULIS France

WEBSITE <u>www.armelio.com</u> **PHONE** +33 (0)1 69 07 64 87

POINT-OF-CONTACT: Alain JUQUOIS, CEO, a.juquois@armelio.com

+33 (0)1 69 07 95 00 Mobile: +33 (0)6 58 58 31 40

TURNOVER 2,5 M€

WORK FORCE 30 employees (PhDs and engineers)

SPACE TURNOVER 0,6 M€

SPACE WORK FORCE 12 employees