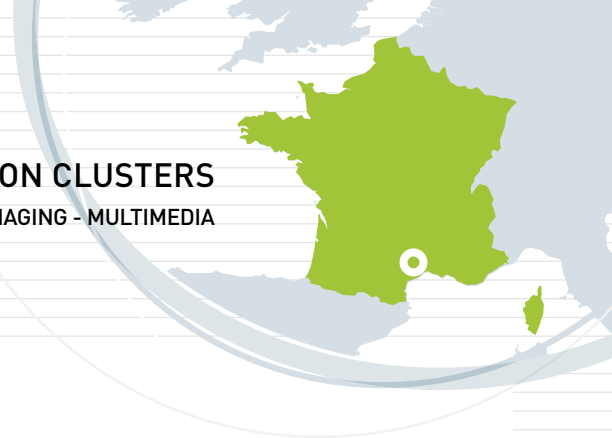


## INNOVATION CLUSTERS

IMAGING - MULTIMEDIA



PROJECTS APPROVED

94

TOTAL BUDGET (€M)

220

# Optitec

## PHOTONICS, OPTICS, COMPLEX SYSTEMS

### MAIN INTERESTS

Optitec's activities are concentrated in 8 major industrial sectors using optics and imaging technologies:

- **Aerospace**
- **Energy**
- **Sea**
- **Health**
- **Microelectronics**
- **Telecommunications**
- **Industrial processes**
- **Environment**

### 175 MEMBERS

**114 companies:** Direction des Constructions Navales (DCNS), Thalès Underwater Systems, Bertin Technologies, Compagnie Industrielle des Lasers Cilas, Gaggione, Studiel, etc.

**including 4 foreign companies:** Thales Alénia Space (France-USA), ST Microelectronics (France-Italy), Taylor-Hobson (USA), Cilas (France/Germany)

**54 centers of excellence:** French Atomic Energy Commission (CEA), French Oceanographic Research Institute (IFREMER), Institute of Research for Agricultural and Environmental Engineering, *Institut Fresnel*, French National Center for Scientific Research (CNRS), Universities of Nice and Toulon, etc.

**29 local authorities**

### R&D WITHIN THE CLUSTER

1,500 RESEARCHERS

94 PROJECTS FINANCED

€29M STATE AID

€19.2M FROM THE IF<sup>(1)</sup>

€7.8M FROM THE NRA<sup>(2)</sup>

NUMBER OF PATENTS FILED IN  
2007 BY APPROVED PROJECTS: 315

(1) IF: INTERMINISTERIAL FUND

(2) NRA: NATIONAL RESEARCH AGENCY

### EXAMPLE PROJECT

#### CISA

**Companies:** Kaolab, Nexvision  
Laboratory LSIS.

**Budget:** €1.3 million Interministerial  
Fund financing: €648,000.

Smart camera for regional and  
urban security.

The aim of the project is to develop  
a wide-range hemispheric camera  
with an integrated 3D-reconstitution  
intrusion detection algorithm.

## CLUSTER STRENGTHS

- **Number of employees at cluster members: 31,300**
- **Photonics in the South of France:**
  - France's second leading region for Optics
  - 20% of France's R&D activities in Optics
  - Average market growth: 10%
  - 38% of turnover from exports
  - 15% of turnover dedicated to R&D
- **Cutting-edge research:** 1,500 researchers in world-renowned laboratories: CNRS, Institut Fresnel, Laboratory of Astrophysics in Marseilles, INRIA, CEA, IFREMER, etc.
- **A dynamic industry:**
  - major companies such as Thales Alenia Space, Eurocopter, ST Microelectronics and Atmel, complex systems developers/integrators as well as optical or imaging system tools users.
  - A tight-knit community of SMEs, sometimes leaders in their field.
  - Start-ups created from spin-offs from major regional companies or laboratories
- **Trained, qualified personnel:** one of the best workforces in France for optics, with 10 universities and 5 engineering schools related to the field training students for specialized Master's degrees, amounting to more than 150 engineers and thesis students in programs each year.

## INTERNATIONAL OUTLOOK

Strong

- **Cooperation with foreign clusters**
  - Optonet cluster (Germany)
  - Boston cluster (Boston Photonic Center)
  - Quebec Photonics network (Quebec)
- **Participation in European programs**
  - Participated in **Mediterranean Optics Network (ROM)** financed by the European Commission's **Interreg IIIB Program**
  - Participated in **Enec project** (European Network of Optical clusters) financed by the **Enterprise DG at the European Commission as part of the 6<sup>th</sup> EU Framework Program Europe Innova project**
  - Participated in the **Photonics 21 technology platform** whose purpose is to set out the strategic calendar in the field of research so as to lay down the foundations of a common strategy to secure European leadership in the photonics field. Under the **7<sup>th</sup> EU Framework Program (FP7)**
- **Involvement in international projects**
  - Partnership with the **Boston University Photonics Center**
  - Partnership and agreement with the **Quebec and Ontario** photonics networks
  - Partnership with the **State of São Paulo in Brazil** (Arcus academic program). Outcome: project approved by Optitec and financed by the French National Research Agency between a French SME in the cluster and a Brazilian laboratory
  - June 2009: participated in Laser trade show and 3<sup>rd</sup> Meeting of European Optics clusters in **Munich**
  - 2009: partnership intensified with **MIT (Massachusetts Institute of Technology) of Boston**

## PROJECTS

PROJECT	PARTICIPANTS	DESCRIPTION
DIOLAZ	Thalès	Developing green-emitting nitride laser diodes.
CISA	Nexvision and Kaolab	Hemispheric camera with moving-scene element detection algorithm for high-level intrusion identification.
PROMISE	French Atomic Energy Commission (CEA) and University of Basel	Full-scale study and testing of different plasma-facing mirror production lines (First Mirror) and used in optical diagnostic tests for the Iter project.
VISION IMPROVED	Savimex and Cemef	Developing industrial optical treatments suited to producing optical systems such as head-up displays (for car windshields, for example) made from plastic materials.
LOSAPA	Orial and the CNRS	High-precision determination of the position and direction of sensors on the ground or embedded in drones, in order to reconstruct 3D scenes to the nearest millimeter.
ALDIP	IBS ( <i>Institut de Biologie Structurale</i> )	Laser activation of performance-enhancing materials implanted by plasma immersion.
TAMAO	Phasics	Adaptative optical systems for microscopes.
PLATON	Tecsen	Platform for optoelectronic and nanometric components.
AUTOFISH (2009)	Subseatech, Mermec et IRD	Field automated device for the quantification of submarine micro-organisms.
ICARE (2009)	Supersonic Imagine, Vermon	Ultra-rapid heart imaging.
MIDOS (2009)	SEOP, IFREMER, LOV and Shaktiware	Imaging module for the development of submarine optics.
CELTIC AO (2009)	Laboratoire LAM	Adaptive optics for extremely large telescopes.
DiNaFluo (2009)	Institut Fresnel	Diphasic nanofluidics, nanostructuring tool for new optics systems.

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