The Deep Tech competitiveness cluster

Nouvelle-Aquitaine, France | since 2005

Photonics & Lasers · Electronics & Microwaves · Advanced Materials

ALPHA-RLH (Route des Lasers & des Hyperfréquences) is the French competitiveness cluster for deep tech in Nouvelle-Aquitaine. For 20 years, it has brought together companies, research laboratories, technology centres and public authorities to turn photonics, electronics and advanced materials into innovative products, start-ups and jobs. The cluster helps its members build and fund collaborative R&I projects, reach new markets in France and abroad, and connect with European partners.

Key figures 2025

302 members

210 companies, including 176 SMEs

53 research & training institutions

4,000 contacts in our network

53 projects supported or labelled in 2025

18 projects funded in 2025, €24M of public funding

13 European projects supported in 2025

48 events in 2025, 1,450 participants

Track record since 2005

1,722	794	112	65
projects supported or labelled	projects funded	companies created	companies set up in the region

European projects

GREEN MANTIS

Eurocluster | ALPHA-RLH = coordinator

Launched in October 2025, Green Mantis supports European SMEs in designing and adopting net-zero technologies: smarter power grids, energy efficiency and transformative industrial decarbonisation technologies.

It brings together six European clusters covering the whole manufacturing and energy value chain: ALPHA-RLH (France), Inteligentna Energija (Croatia), PRODUTECH (Portugal), Confindustria Emilia Area Centro (Italy), ITECAM and SOLARTYS (Spain). Services include funding of up to €100,000 for collaborative SME projects, free training and international missions.

ASTEERICS

Chips JU | ALPHA-RLH = technical coordinator

ASTEERICS is the French Competence Centre in microelectronics, funded by the Chips Joint Undertaking and the French France 2030 programme. It makes microelectronics more accessible to start-ups and SMEs, building on three sovereign technologies (FD-SOI, GaN, SiC).

It offers training, technical and business coaching, and access to European experts, tools and infrastructures. Eight partners: the competitiveness clusters AKTANTIS, ALPHA-RLH, Images & Réseaux, Minalogic, Smart Power and Systematic Paris-Region, plus CAP'TRONIC and CNFM.

ALPHA RLH
ROUTE DES LASERS & DES HYPERFRÉQUENCES

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Technology centres and academic partners in our network

Our members include technology centres and research universities that European consortia can mobilise for prototyping, testing, characterisation and industry access. ALPHA-RLH connects your project with the right infrastructure and expertise.

Technology centres

ALPhANOV

Bordeaux (Talence)

ALPhA NOV Centre Technologique Optique et Lasers

Technology centre for optics and lasers: laser processes, sources and fibre components, prototyping and testing for industry.

CISTEME

Limoges

CISTEME

Technology centre in electronics and microwaves, supporting companies from idea to product.

CATIE

Bordeaux (Talence)

CATIE

Technology centre for digital technologies: connected and innovative sensors, embedded intelligence, secure networks, virtual reality and robotics.

CANOE

Nouvelle-Aquitaine

canoe

Technology centre for composites and advanced materials: formulation, processing and characterisation, from lab to pilot scale.

Academic partners

University of Bordeaux

One of France's leading research-intensive universities, with photonics, laser and electronics laboratories such as CELIA, LP2N and IMS, run with CNRS and partner schools.

université de BORDEAUX

University of Limoges

Home of XLIM, a major research institute in photonics, electronics and microwaves, and of IRCER for advanced ceramics.

Université de Limoges

La Rochelle University

Interdisciplinary university focused on the sustainable and smart urban coastline, with research in digital technologies and environmental sciences.

La Rochelle Université

Looking for test facilities, prototyping capacity or scientific expertise for your project?
We identify and mobilise the right technology centres and laboratories among our 302 members.

ALPHA RLH
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What we bring to European R&I consortia

Our services for EU projects

Stakeholder & industry engagement

Mobilisation of end users, pilot sites and early adopters among 302 members and a 4,000-contact network; stakeholder groups and user boards; co-creation workshops; links with regional and national innovation policies.

Coordination support & project management

5 collaborative projects coordinated, including the Green Mantis Eurocluster, and technical coordinator of ASTEERICS (Chips JU). Proposal support, project management office, reporting, partner follow-up, or full coordination of CSAs.

Communication & dissemination

C&D and exploitation plans, web and social media, policy briefs. Our own audience: 5,400 LinkedIn followers, 50 press articles in 2025, regular pages in the French photonics magazine *Photoniques*, a digital member directory.

Mapping & needs analysis

Mapping of actors, value chains and technology infrastructures; user needs surveys, interviews and focus groups; technology and market landscaping, supported by dedicated managers for each technology and market domain.

Event organisation

48 events in 2025: 30 technical days, workshops and national fairs, 8 international fairs and missions, 7 digital events. 1,450 participants, 170 speakers, 86 exhibitors. Workshops, hackathons, B2B matchmaking, demo days, conferences.

Event highlights 2025

Event	Location	Participants
Members' Forum: 20 years of the cluster	Bordeaux	**220**
Quantum Day, keynote by Nobel laureate Serge Haroche	Talence	**150**
RF Connect: 5G/6G connectivity	Limoges	**140**
Bio-imaging, photonics & health day (BIPSA)	Poitiers	**120**
Smart Buildings & Mobilities	Limoges	**115**
Electronics Challenges: predictive maintenance	Talence	**110**
Photonics for space, with Photonics France	Léognan	**100**
Defence Day, with 62 B2B and B2G meetings	Bordeaux	**90**

Our ecosystem and networks

Board members include Thales, Safran Electronics & Defense, Dassault Aviation, ArianeGroup, Legrand, Saint-Gobain, Amplitude Laser, CEA CESTA, CNRS, the Universities of Bordeaux and Limoges, Institut d'Optique Graduate School, the XLIM and CELIA laboratories, and the technology centres ALPhANOV, CATIE and CISTEME.

Technology domains: photonics-lasers, electronics-microwaves, materials, digital and quantum technologies. **Application markets:** aeronautics-space-defence, health, communication-security, energy-smart buildings, industry of the future.

International reach: representatives in China, the USA, Canada and Japan; presence at international trade fairs such as Photonics West and European Microwave Week; partnerships with Photonics France, French competitiveness clusters and European clusters such as High Tech NL.