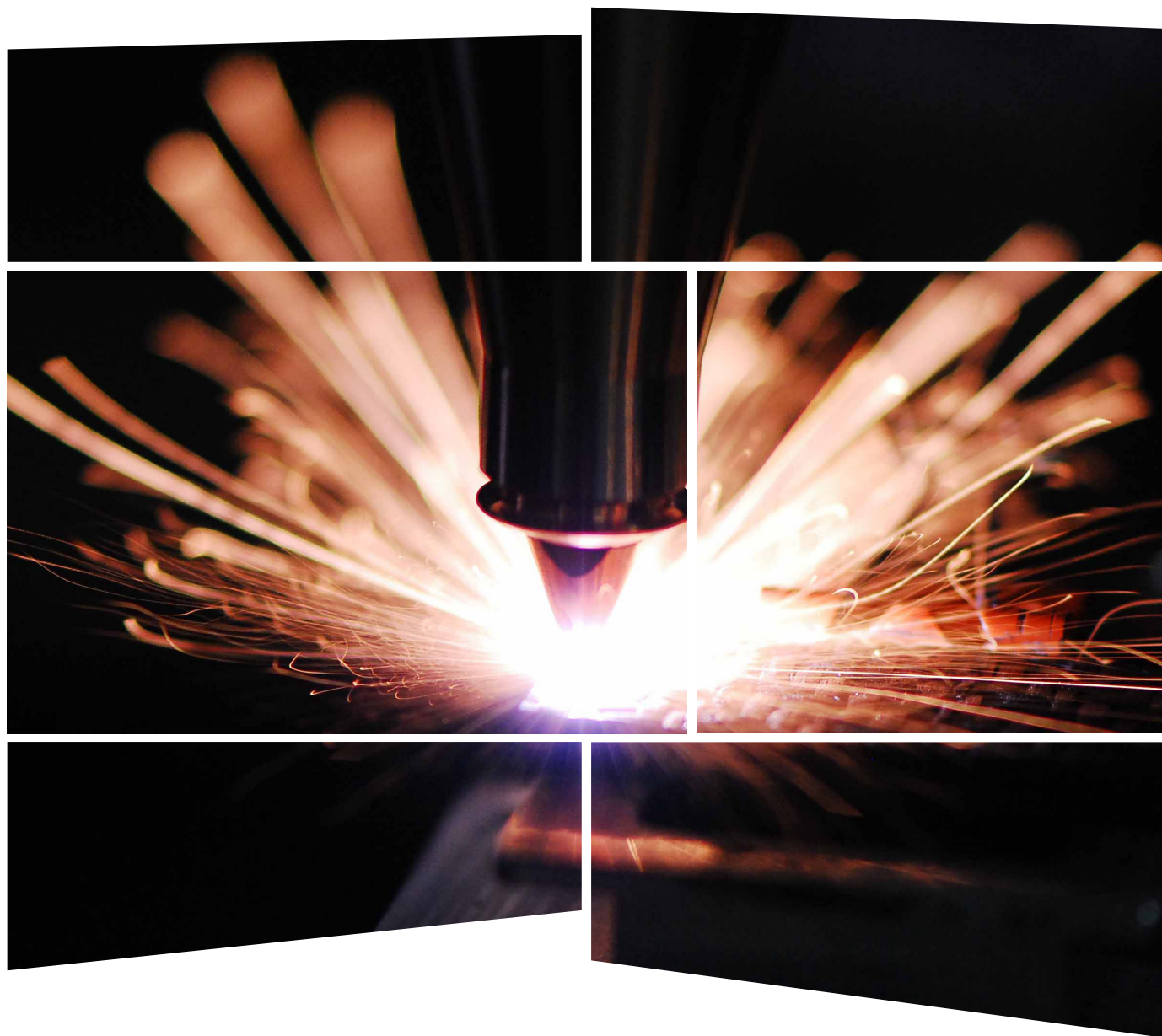


ALPhA NOV

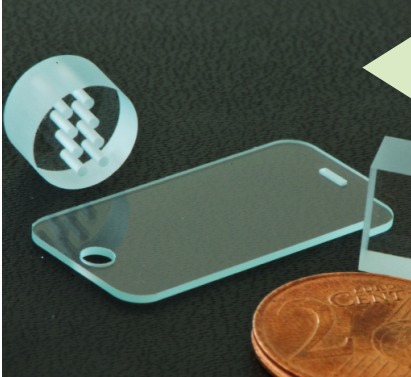


OPTICS & LASERS TECHNOLOGY CENTER

Of the ALPhA-RLH competitiveness cluster

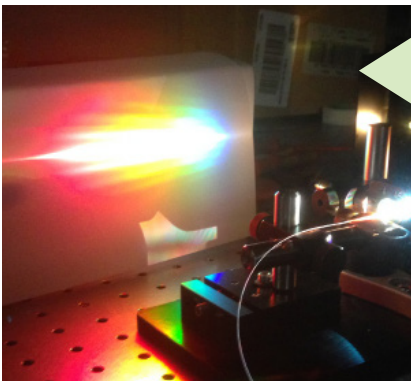
Four fields of expertise

LASER PROCESSING AND MICRO-MACHINING



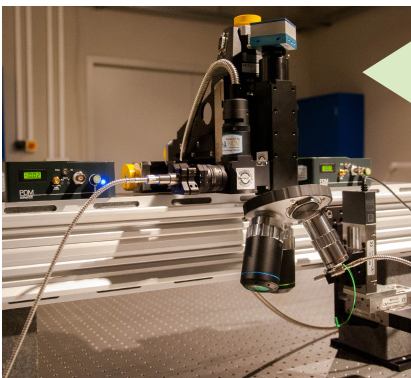
- From process development to customized systems.
- Applications for a large variety of materials: metals, polymers, silicon, ceramics, composites, glass and crystals.
- Cutting, marking, engraving, welding and texturing of materials with size and precision down to the micron scale.

LASER SOURCES AND FIBER COMPONENTS



- Development of innovative laser sources and fiber components.
- Generation of ultra-short pulses, non-linear effects.
- Expertise on the interfacing and integration of doped micro-structured optical fibers.
- Integration of optical and micro-optical components in free space.
- Management of high power systems.

LASER AND OPTICAL SYSTEMS



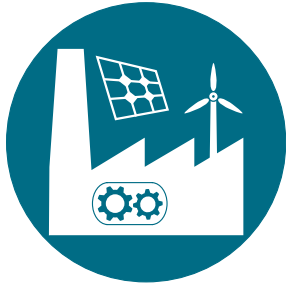
- Production of complete laser systems dedicated to modular laser micro-machining systems and the biomedical field.
- Design and production of reliable optical sub-systems for embedded applications.
- Development of laser diode drivers.
- Design of imaging and optical solutions.
- Evaluation of optoelectronic components reliability.

PHOTONICS AND HEALTH



- Laser generated X-ray imaging.
- Development of new therapeutic methods based on laser-living tissue interaction.
- Design of components and medical systems, integrating lasers and fiber components or requiring laser precision machining.
- Optimization of laser sources, components and subsystems necessary for health related processes.
- Non-linear multiphoton imaging systems.

Applications



FACTORIES OF THE FUTURE

- Innovative laser processes (surface engineering, advanced material processing, cutting of composites)
- Machine vision
- Sensors for process control



AERONAUTICS

- Machining of composites and metals
- Surface treatments
- Material hardening
- Laser ignition



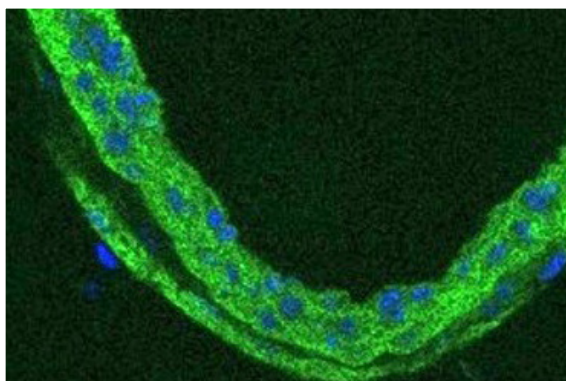
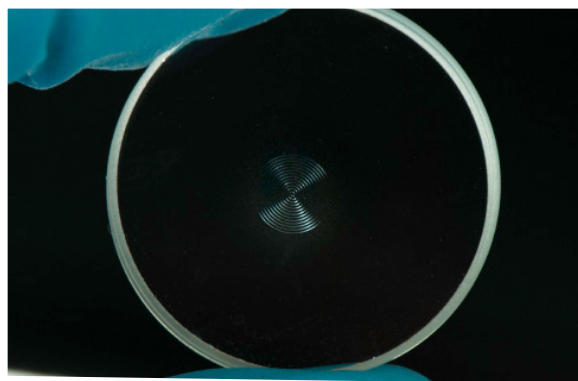
HEALTH

- Ophthalmic surgery
- Tissue engineering
- Endoscopy
- Implants and medical devices
- Medical imaging



DEFENCE AND SECURITY

- Traceability, anti-counterfeiting marking
- Opto-pyrotechnics
- Designation and countermeasure
- Atom cooling
- Safety assessment of integrated circuits



From ideas to product

EXPERTISE AND KNOW-HOW AT THE SERVICE OF INDUSTRY

ALPhANOV acts as a technology transfer accelerator and provide industrial partners with its expertise and know-how.

- To support business creation and development by bringing innovative solutions to meet company expectations.
- To assist in the valorization of research laboratories and in the technology transfer process.
- To build-up collaborative projects, bring technologies to maturity and accelerate products to market.
- To provide resources and services in the field of optics and lasers.

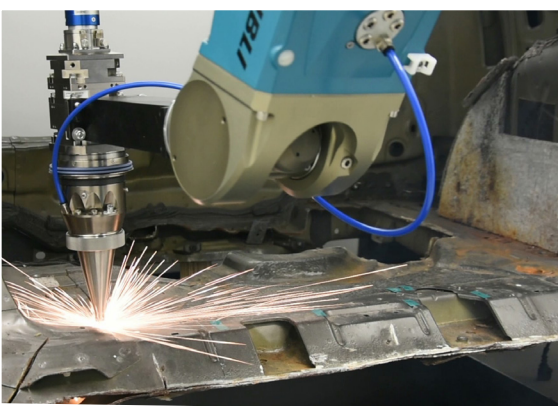
MULTIPLE MODES OF ACTION

ALPhANOV offers multiple modes of action which allow acting all along the value chain.

- Collaborative projects in partnership with companies and research laboratories.
- Services: optics and laser expertise, technical support to companies, feasibility studies of manufacturing processes.
- Joint technical resources: access to shared technical facilities, dedicated resources for companies and laboratories.
- Technological support of entrepreneurship.

TECHNOLOGICAL AMPLIFIER

ALPhANOV acts as a « technological amplifier » serving innovative projects with short and mid term industrial targets.



Unique savoir-faire

STATE-OF-THE-ART EQUIPMENT



- Large range of lasers, from femtosecond pulses to continuous wave, from ultraviolet to infrared.
- Machines and 3D laser machining workstations, trepanning head, cutting heads, 6-axes robot, dynamic focusing module, fast dynamic laser-beam positioning devices.
- Characterization systems: microscopes for measurement and analyses, scanning electron microscope, 3D surface measurement systems, beam characterization modules.
- Optical fiber polishing machine for all fiber types, fiber welding machines, fiber cleavers.
- Laser diodes reliability testing systems.

A TECHNOLOGY PLATFORM FOR ALPhANOV'S INDUSTRIAL PARTNERS



A part of ALPhANOV's facilities is dedicated to cooperation with industrial partners. This proximity allows co-locating R&D projects and provides companies with a favorable environment to carry collaborative R&D and joint studies.

ALPhANOV is located within the Institut d'optique d'Aquitaine, shared with the LP2N laboratory, the Bordeaux campus of the Institut d'Optique Graduate School, the Pyla training center and the ALPHA-Route des Lasers & des Hyperfréquences competitiveness cluster.

A PHOTONIC AXIS BETWEEN LIMOGES AND BORDEAUX



As part of the development in the scientific and technical field of the New Aquitaine region, a photonic axis has been built up between Limoges and Bordeaux. This axis makes it possible to group complementary skills with the mutual ambition of promoting research and centralize the actors of photonics within the region.

The XLIM Research Institute welcomes ALPhANOV with the aim of intensifying their relation and increasing the level of maturity of Excellence Research carried out in Limoges.

ALPhA NOV

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