

FOCUS ON INDUSTRY INVOLVEMENT

Ways to collaborate with research infrastructures, and ELI ERIC

Panelist



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Discussion Questions for Panel

-FOCUS ON INDUSTRY INVOLVEMENT

Capabilities to join in consortium for Innovation and R&D contrats, projects, tenders

Fields of work and applications related to ELI's, Portugal and Spain
(Lasers, secondary sources, related equipment and the applications of these topics)

Industrial time user calls from our facilities to promote industrial collaborations

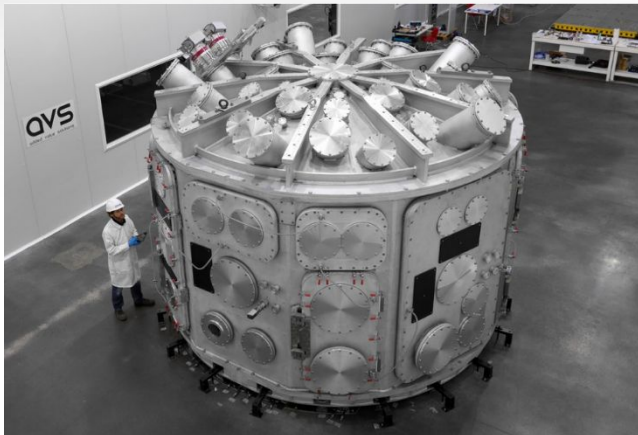
Promote collaboration from Portugal and Spain with ELI's on industrial environment



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Design and prototyping**INSTRUMENTATION**

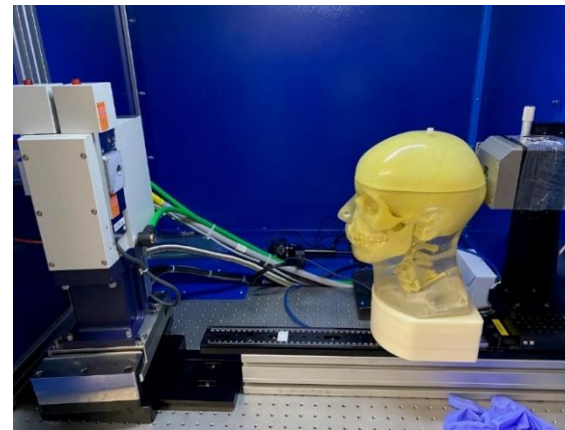
Innovation-driven procurement

**QVS**

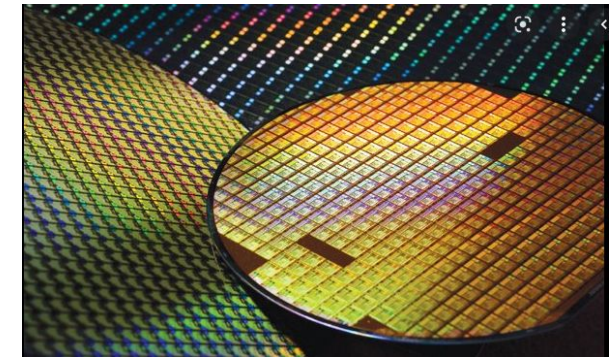
- Optics, cryogenics, vacuum
- Clean rooms, detecting systems
- Safety, monitoring
- Data management, SW solutions

Technologies & Software & Industrial user access & Industry sponsored staff**MEDICINE**

Cancer diagnostics and treatment

**工業技術研究院**
Industrial Technology
Research InstituteInstitute of Physics
of the Czech
Academy of Sciences**MATERIALS**

Characterization & Testing

**RENEWABLE ENERGY**

Laser-driven nuclear fusion

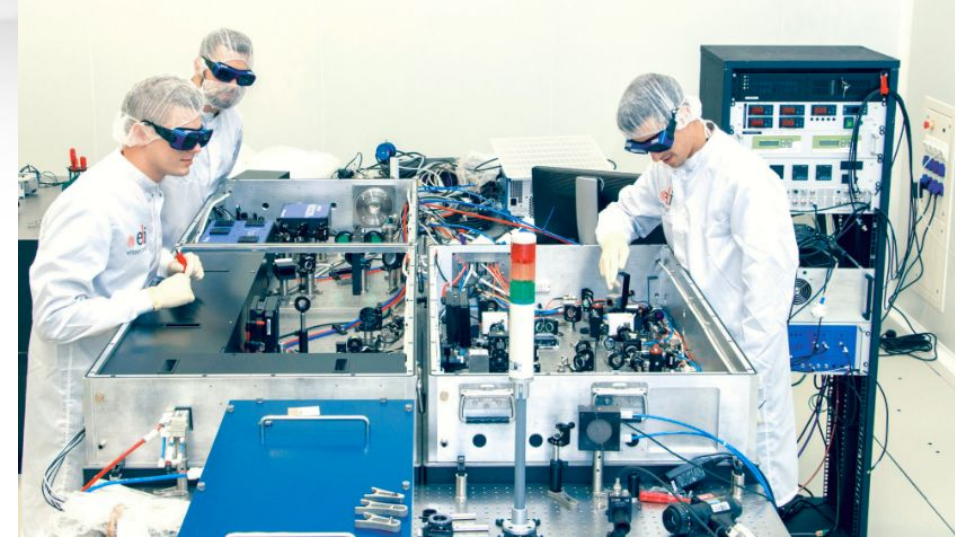


Users

Individuals, teams, consortia and institutions from academia, business, industry and public services

Main Research and Application Areas

- Valence and Core Electron Science
- 4D Imaging
- Relativistic Interactions
- Biological, Medical, Industrial Applications



Photovoltaic project

The project aims at rendering an important category of cheap renewable energy, and third Generation of Solar Cells for commercialization and technology.

Project budget: ~130 kEUR

Nuclear waste management

Concept: initiate transmutation by laser acceleration

Project budget: 10 million €



Project description: solution to shorten nuclear waste's half-life is partitioning and transmutation, which means separating the components of nuclear waste and then converting the ones that have long half-lives by transmutation.

Collaborators: University of Szeged, École Polytechnique, TAE (California)

Industry can be **users** of Laser Research Infrastructures

- LaserLab-PT, CLPU, ELI might be **competitors** for industrial users
- Find the **complementary** offer space – all users; **overlap** – national users
- Trans-national **catalog of services** for industry users – market for units of access

Industry can be **suppliers** of Laser Research Infrastructures

- Many components go into building a Laser facility – most are **equivalent to other Big Science facilities**
- Trans-national consortia can **design, prototype and build** components of future upgrades of ELI (and others)
- **EU and national funding** exist to support all stages of development of new or upgraded research facilities





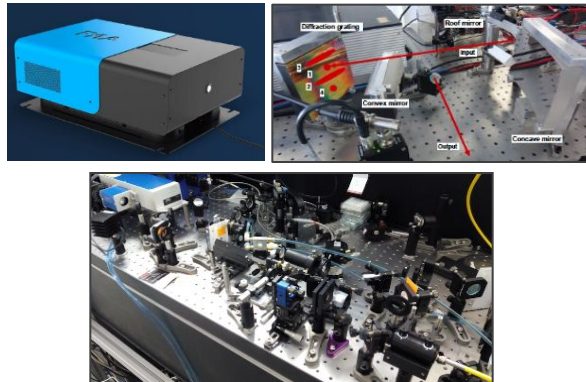
■ Industry cooperation opportunities

- **Technologies** (inventions and applied transfer technology)
- **Laser instrumentation and developments** (innovative custom design and prototypes for industry)
- **Industrial user access** (laser applications, material testing and processing, particle acceleration, plasma physics and laser filamentation, secondary sources)

■ Key Application Areas

LASERS & DIAGNOSTICS

New laser sources for custom applications



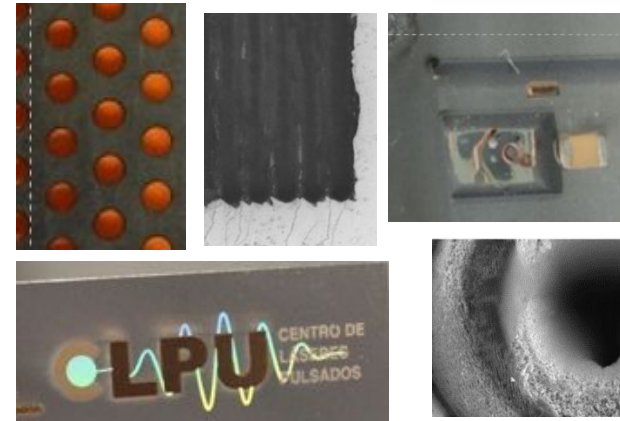
AERONAUTIC & AUTOMOTIVE

Lasers, materials, detectors and components



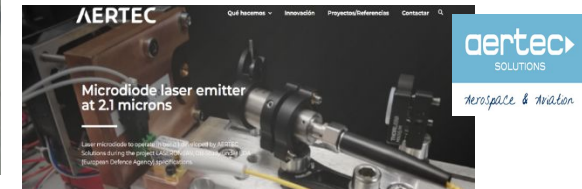
LASER MATERIAL PROCESSING

USPL in surface, drilling, targets



DEFENSE & SECURITY

New lasers for DCIRM, Laser effectors and laser propagation



MEDICINE

Laser surgery, Imaging and FLASH therapy diagnostics



Jeanologia LASER

FYA

monocrom



TECNIVIAL



CARTIF

indra
Valeo

RAMAN
HEALTH TECHNOLOGIES

ELTRON

ALBA

MONTCASYER



CLPU CENTRO DE LASERES PULSADOS

