



## → At the heart of tomorrow's issues

The institut Carnot **CEA LIST** focuses its R&D programmes on software-intensive systems. Situated in the southern part of the Île-de-France region (Saclay and Fontenay-aux-Roses), the CEA LIST gathers more than 500 persons around themes with strong economic and societal stakes:



### ■ Interactive systems

- Robotics,
- Virtual reality and multisensorial interfaces,
- Multimedia multilingual knowledge engineering.



### ■ Embedded systems

- High-performance computational architecture,
- Methods and tools for software and system safety & security,
- Smart vision systems.



### ■ Sensing systems

- Non destructive testing,
- Instrumentation and signal processing for health and security,
- Metrology of ionizing radiation.

## → An innovation driver

- By developing cutting-edge technological research, the CEA LIST enhances the industrial competitiveness of its partners through innovation and technological transfer. The majority of its activity is thus focused on joint research with key industries in automotive, aeronautics, nuclear, security and medical markets: 80 partners - large accounts and SMEs, over 200 contracts signed per year, 5 high-tech start-ups created since 2001, a portfolio of 176 patents implemented at an international level, corresponding to 70 active licences. The consolidated budget of the CEA LIST is €43 million, more than 40% of which under contract.
- The CEA LIST activities are present throughout the innovation chain, from the system design to pre-industrial demonstrators. Constant efforts are made to ensure that these activities fall within the scope of technological roadmaps - in the medium and long term - shared between its partners. The majority of these technological visions are elaborated in the 14 joint laboratories and R&D programmes implemented between CEA LIST and industrial partners. Label Carnot was awarded to CEA LIST in 2006, due to the quality of the joint research performed by the institute.



## → In the core of the Digiteo and SYSTEM@TIC ecosystem

CEA LIST's development is integrated into a world-class ecosystem. The Institute has founded an upstream scientific partnership with **Digiteo**, the leading ICST Research Park in France that was labelled RTRA (thematic advanced research network) at the end of 2006. At a regional level, CEA LIST plays an active role in competitiveness clusters in the Île-de-France region and particularly in the global **System@TIC Paris-Région** cluster that is dedicated to complex systems: the Institute is therefore heavily involved in running the cluster and in all its major research projects. CEA LIST is also an active partner in several other competitiveness clusters, particularly **Cap Digital, Aerospace Valley, Moveo and Medicen**.

## → In the European dynamics

With more than 30 FP6 projects, already 29 FP7 projects (among which 5 as coordinator) and a participation in several networks of excellence (NoE), CEA LIST is deeply involved in European Research. The Institute is also a partner of several European Technology Platforms, such as **Artemis** for embedded systems or **Europ** for robotics and co-elaborates research roadmaps, particularly in the security field.

## → Main equipments

Immersive rooms (virtual reality room and wall of images), NDT experimental platform, robots, CAD stations for conception of integrated circuits, diamond synthesis reactors, platforms for dose metrology and ionizing radiation activity.

## → Skills

Software intensive systems, digital systems, embedded systems, interactive systems, software architecture, software engineering, simulation, modelling, virtual reality (VR), robotics, automatics, multisensorial interfaces, knowledge engineering, applied mathematics, electronics, signal processing, image processing, vision systems, sensors and actuators technology, diamond synthesis, metrology, instrumentation, dosimetry, fiber optics, non destructive testing (NDT).

## → Markets

- Energy,
- Transports,
- Defence,
- Information and Communication Technologies,
- Health.



## → Key figures

### ■ Staff

Permanent staff (full-time equivalent): **412**  
PhD students / Post-doctoral: **99**

### ■ Budget

Global budget: **43 380 k€**  
Partnership research incomes: **18 500 k€**

## → Contact

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