The Laboratory

The Institute of Electronics, Microelectronics and Nanotechnology (IEMN) was founded in 1992 as the result of a four-year public-private partnership. Located in Lille, the Laboratory is the result of the merging of two former C.N.R.S. laboratories, L2EAM with the E.I.E. laboratory.

IEMN contributes to the advancement of scientific knowledge and also promotes higher education and training in the field of Microelectronics, Nanoelectronics and Nanoscience.

The research field of IEMN has developed over time, driven by the need for technological breakthroughs and a desire to respond to new industrial needs. The laboratory conducts research on technologies and materials in microelectronics and nanotechnology, including two key areas: fundamental research and industrial development of new technologies and their applications.

IEMN is a member of the French Basic Technological Research Network in micro and nano fabrication. It is also a member of the European Research Council (ERC), which supports research projects that are at the forefront of scientific knowledge.

The laboratory is located in the Lille region, in close proximity to the University of Lille and other research institutions. It also has strong ties with industry, including partnerships with major companies in the electronics sector.

The laboratory is characterized by a strong emphasis on interdisciplinary research, with collaborations across various disciplines, including physics, chemistry, biology, and engineering. This approach enables the development of innovative solutions to complex problems in the field of microelectronics and nanotechnology.

The laboratory is dedicated to the advancement of scientific knowledge and the promotion of higher education and training in the field of microelectronics, nanoelectronics, and nanoscience. It is recognized for its contributions to the development of new technologies and their applications, and it continues to play a vital role in advancing the field of microelectronics and nanotechnology.
**Technological Facilities**

**Micro and NanoFabrication clean-room**
LAMM at the IEMN dedicated to research and technology transfer.
Staff: 7 Engineers
Equipment: SE, LEAF

**Measurement NanoFabrication clean-room**
Staff: 7 Engineers
Equipment: LS, MBE

**Scanning Probe Microscopy Platform**
Staff: 7 Engineers
Equipment: LS, MBE

**Telecom Platform**
Staff: 7 Engineers
Equipment: LS, MBE

As part of the national network of Large Technical Facilities and Basic Research Technological Facilities (LEAF project) of the French Physical and Electrical Research National Institute in France, IEMN offers clean-room facilities to researchers operating in open access for the scientific and industrial communities.

**FRENCH PROGRAM LEAF**
- **Clean-room fabrication**
- **Characterization**
- **Components and prototyping tools**
- **Software and hardware**
- **Radiofrequency**
- **Nanoplasmonics**
- **Optoelectronics**
- **Wireless communication**
- **Antenna design and fabrication**
- **Micro and Nanotechnology**
- **Biomedical Devices**
- **Nanometric Devices**
- **Scanning Probe Microscopy**
- **Scanning Electron Microscopy**
- **Scanning Confocal Microscopy**
- **Scanning Near Field Microscopy**
- **Scanning Optical Microscopy**
- **Atomic Force Microscopy**
- **Scanning Tunneling Microscopy**
- **Optical Tweezers**
- **Scanning 2D nanostructures**

**France**: www.leaf.fr

**Key equipment**: About 20 M€

**Staff**: 26 Engineers/Tech

**FRENCH PROGRAM ExCELSiOR**
- **Experiments**
- **Characterization**
- **Fabrication**
- **Components and prototyping tools**
- **Software and hardware**
- **Radiofrequency**
- **Nanoplasmonics**
- **Optoelectronics**
- **Wireless communication**
- **Antenna design and fabrication**
- **Micro and Nanotechnology**
- **Biomedical Devices**
- **Nanometric Devices**
- **Scanning Probe Microscopy**
- **Scanning Electron Microscopy**
- **Scanning Confocal Microscopy**
- **Scanning Near Field Microscopy**
- **Scanning Optical Microscopy**
- **Atomic Force Microscopy**
- **Scanning 2D nanostructures**

**France**: www.excelesior.fr

**Key equipment**: About 500 K€

**Staff**: 5 Engineers

**FRENCH PROGRAM NanoFabrication Measurement Platform**
- **Experiments**
- **Characterization**
- **Fabrication**
- **Components and prototyping tools**
- **Software and hardware**
- **Radiofrequency**
- **Nanoplasmonics**
- **Optoelectronics**
- **Wireless communication**
- **Antenna design and fabrication**
- **Micro and Nanotechnology**
- **Biomedical Devices**
- **Nanometric Devices**
- **Scanning Probe Microscopy**
- **Scanning Electron Microscopy**
- **Scanning Confocal Microscopy**
- **Scanning Near Field Microscopy**
- **Scanning Optical Microscopy**
- **Atomic Force Microscopy**
- **Scanning 2D nanostructures**

**France**: www.nano fabrication-measurement.org

**Key equipment**: About 3 M€

**Staff**: 3 Engineers

**FRENCH PROGRAM NanoFabrication Microscopy Platform**
- **Experiments**
- **Characterization**
- **Fabrication**
- **Components and prototyping tools**
- **Software and hardware**
- **Radiofrequency**
- **Nanoplasmonics**
- **Optoelectronics**
- **Wireless communication**
- **Antenna design and fabrication**
- **Micro and Nanotechnology**
- **Biomedical Devices**
- **Nanometric Devices**
- **Scanning Probe Microscopy**
- **Scanning Electron Microscopy**
- **Scanning Confocal Microscopy**
- **Scanning Near Field Microscopy**
- **Scanning Optical Microscopy**
- **Atomic Force Microscopy**
- **Scanning 2D nanostructures**

**France**: www.nano fabrication-microscopy.org

**Key equipment**: About 3 M€

**Staff**: 3 Engineers

**FRENCH PROGRAM Telecom Platform**
- **Experiments**
- **Characterization**
- **Fabrication**
- **Components and prototyping tools**
- **Software and hardware**
- **Radiofrequency**
- **Nanoplasmonics**
- **Optoelectronics**
- **Wireless communication**
- **Antenna design and fabrication**
- **Micro and Nanotechnology**
- **Biomedical Devices**
- **Nanometric Devices**
- **Scanning Probe Microscopy**
- **Scanning Electron Microscopy**
- **Scanning Confocal Microscopy**
- **Scanning Near Field Microscopy**
- **Scanning Optical Microscopy**
- **Atomic Force Microscopy**
- **Scanning 2D nanostructures**

**France**: www.nano fabrication-platform.org

**Key equipment**: About 2 M€

**Staff**: 3 Engineers/Tech