



# Smartphone Lab

Smartphones: CEA-Leti technologies for today and tomorrow

## What is Smartphone Lab?

CEA-Leti provides solid expertise to develop an array of innovative component technologies that make our smartphones work. From gyroscopes for screen rotation to future 6G antennas, this demonstrator brings together all CEA-Leti technologies currently used, or soon to be used, by telecom players.

## Technologies

- **Telecommunication:** 5G/6G antennas, ultra-wide band technology
- **Computing:** 3D integration, non-volatile memory, FD-SOI transistors, Edge AI, etc.
- **Sensors:** NEMS, piezoelectric components and optical systems-on-chip
- **Display:** Screens using GaN microLEDs, etc.
- **Security:** Risk management against intrusion and data theft using recognition sensors
- **Radiofrequency:** Dedicated components (filters, amplifiers, switches)

## Approach

From computing, display technologies to RF-SOI filters, CEA-Leti is developing a complete palette of technologies for tomorrow's applications. CEA-Leti teams offer technologies that combine performance, low consumption, and innovative uses.

## What's next?

CEA-Leti teams are paving the way to the future with the integration of new components and technologies, including:

- More precise analysis of the air and prevention of public health risks
- Flexible and foldable devices with borderless screens
- IoT development and management of daily tasks using a smartphone
- Very high speed transmission and ultra-secure communication
- Enhanced computing power and optimized management of electronic flows enabled by edge AI
- Management of resources allocated to components to reduce energy consumption
- And so much more.

## Key facts

- 29 components
- 1+ billion smartphones in circulation contain at least one technology developed by CEA-Leti
- 20+ years of innovation supported by CEA-Leti



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