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# LETI BACKGROUNDER

## LETI AT GLANCE

- Founded in 1967
- 350 industrial partners
- 1,900 researchers
- 2,670 patents in portfolio
- 8,500 sq. m. cleanroom space, 8" & 12" wafers
- 60 startups launched
- €315 million annual budget
- 700 publications each year
- ISO 90001 certified since 2000

**Leti is a technology research institute at CEA Tech and a recognized global leader in miniaturization technologies enabling energy-efficient and secure solutions. Committed to innovation, its teams create differentiating solutions for Leti's industrial partners.**

By pioneering new technologies, Leti enables innovative, applicative solutions that ensure competitiveness in a wide range of markets, while creating jobs and improving people's lives. Leti tackles critical, current global issues such as the future of industry, clean-and-safe energies, health and wellness, sustainable transport, information and communication technologies, space exploration and safety & security.

Leti's multidisciplinary teams deliver solid expertise on micro- and nanotechnologies for applications ranging from sensors to data processing and computing solutions, leveraging world-class pre-industrialization facilities. Leti's pioneering technologies include low-power platforms for the IoT, low-cost multi-sensor solutions and 3D integration for cost-effective devices featuring higher performance and reliability, while consuming less energy.

For 50 years, the institute has built long-term relationships with its industrial partners – global companies, SMEs and startups – providing tailor-made solutions through bilateral projects, joint laboratories or collaborative research programs and a clear intellectual-property policy. Leti's startups program actively supports the launch of new technology companies.

Over the years, Leti has collaborated with major research technology organizations and academic institutions to help bring upstream research to the marketplace.

The institute is based in Grenoble, France, and has offices in the Silicon Valley (USA) and Tokyo (Japan).

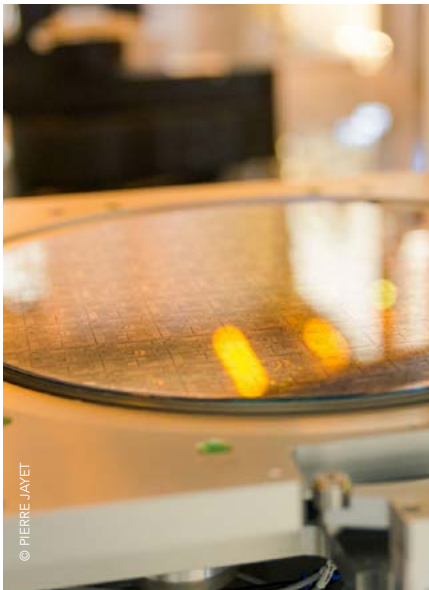
*\*Carnot Institutes network: French network of 34 institutes serving innovation in industry.*

## PRESS CONTACT

Agency  
 Sarah-Lyle Dampoux  
 +33 674 932 347  
[sldampoux@mahoneylyle.com](mailto:sldampoux@mahoneylyle.com)



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## LETI'S TECHNOLOGY SOLUTIONS

- Computing
- Wireless Communication & Networks
- Image & Vision
- Sensing
- Power Electronics
- Photonics
- Medical Devices
- Cyber-Security

### LETI TAILORS INNOVATIVE SOLUTIONS TO MEET ITS PARTNERS' GOALS. THEY BENEFIT FROM:

- A large range of pre-industrialization facilities
- High level multi-disciplinary expertise and services
- Lower risks in developing breakthrough solutions
- Customized innovation projects
- A clear intellectual property policy to provide competitive advantage
- A complete ecosystem: startups, industrial partners along the whole value chain
- Coordination of world-class European projects

### LETI, A KEY TECHNOLOGY PARTNER FOR CONSUMER-ELECTRONICS INNOVATION

- Microdisplays for augmented reality
- Sensors for mobile phones
- ICs for consumer products (FDSOI)
- Energy-recovery systems
- Transceivers for radio-access technologies (cellular, WLANS, WANS, IoT)
- Security systems and components



## BIOGRAPHY OF **MARIE SEMERIA, LETI CEO**

Marie Semeria became CEO of Leti in October 2014. She also was named president of the Carnot institutes network, an association of more than 30 French research centers and laboratories.

During her previous 18 years at CEA, she held a variety of senior-management and strategy-development positions, and helped secure numerous patents. She served as Leti's deputy director from 2007-2011. During that time, she also took on the additional responsibility of deputy director in charge of strategy, working closely with the Carnot institutes network.

Most recently, she was chief scientist at CEA Tech, the CEA research unit that includes Leti, Liten and List. In that position, she was in charge of developing and implementing the unit's scientific and technological goals, coordinating with industrial partners and establishing strategic partnerships with academic labs.

Semeria joined Leti in 1996 as project manager, and also served as head of the institute's Thermal Treatment Lab from 1996-1999. From 2003-2007, she was the microelectronics program manager.

Her professional experience ranges from work at a major global industrial to a French startup. She began her career at Sagem, the high-tech unit of SAFRAN Group. At Sagem, she served as project engineer and was promoted to manufacturing chief engineer, focusing on magnetic memory technologies. Semeria left Sagem after seven years to join the start-up PixTech as chief architect, working on emissive flat-screen technology. She joined Leti after three years at PixTech.

In 2011, she was awarded the Legion of Honor, France's highest professional accolade.

Semeria is a member of the French and European Physics Societies. She also has served as a member of the National Committee of the French National Center for Scientific Research (CNRS) and the Superior Council of Research and Technology. She is currently a member of the executive committees of ANR (the French National Research Agency) and CNRS, and the coordinating committee of the Allistene alliance, the science and digital technology alliance.

Semeria received a doctorate of science in solid-state physics from Joseph Fourier University in Grenoble.



# LETI STARTUPS@CES2017

Leti stands behind its high-tech startups. Whether it is through patent licenses, common labs, or spin-offs, Leti actively supports the creation of value and jobs by launching promising new high-tech businesses. Over the course of the past 30 years, 60 startup companies have benefited from the Leti Startup Program, including Soitec (IPO), Sofradir, ULIS, Tronics (IPO), Movea (acquired by InvenSense), MICROOLED, and in more recent years, AVALUN, Primo1D, EnerBee, iskn and BeSpoon, to name a few.

The Leti Startup Program is now stepping up the pace to develop a more collaborative and open process of innovation, to generate more startups. Geared towards both entrepreneurs and the whole innovation and entrepreneurial ecosystem in Grenoble, France, and beyond, the program now accelerates between 15 and 20 high-tech startups per year, in such fields as biotech, cleantech, virtual and augmented reality, smart manufacturing and industrial and consumer applications.

**Leti is bringing 2 start-ups at CES show:**



## **Hyper-local air quality sensing**

Lichens are air pollution bio-indicators, and eLichens uses that capability in its digital markers of air quality. Founded in 2014, the startup develops services and miniaturized sensors for both industrial and consumer markets to detect, monitor and predict air quality both indoors and outdoors.

Although industrial-grade sensors of this type do exist on the market, they are often energy-hungry and bulky, with a short lifespan. eLichens offers differentiating solutions with ultra-low-power, low-carbon footprint and smart sensors, featuring an increased lifespan.

eLichens plays a key and growing role in the emerging market for smart city solutions and services, offering differentiating air quality sensing solutions for a more environmentally friendly World supported by communities and government agency strategies – e.g. managing city's green spaces & infrastructure, energy footprint, sources of pollution, traffic management and carbon budget.

eLichens unique hybrid approach combines real-time sensor network and best-in-class gas dispersion models. This combination enables cost-effective and high performance air monitoring station.

Located in Mountain View, CA, and Grenoble, France, eLichens will commercialize its first products in 2017. Discover eLichens' new hot product at **booth # 50653**.

### **Contact info:**

Marc Attia  
[marc.attia@elichens.com](mailto:marc.attia@elichens.com)  
[www.elichens.com](http://www.elichens.com)



## **Connected fitness platform – Wellness – IoT**

Moovlab, a Leti spin off, will present for the first time at CES 2017 its connected fitness-platform prototypes for trainers, coaches and sports enthusiasts. Visitors at its booth will be able to participate in a round of virtual boxing training in a professional-size boxing ring wearing gloves embedded with sensors that measure performance (power, speed, reactivity, frequency and explosive power)!

More connected than ever, people under 35 are participating in sports activities on a regular basis. They especially enjoy getting involved in group exercises for increased motivation and social interaction. To address this demand, Moovlab offers a turnkey, easy-to-use, dedicated platform to the fitness world.

Created in 2016, the startup combines a sensor with a multi-purpose/multi-function app. Embedded in sports equipment (e.g. wrist bands, boxing gloves, mittens etc.) the Moovlab sensor detects athletic movement. Performance is then converted into digital data, transmitted to an application (in a smartphone or fitness-room display) and processed – depending on the type of training chosen – to ensure more efficient and interactive training for individuals as well as groups.

Join Moovlab at Sands Expo, Level 1, Hall G, **Booth #50649**.

### **Contact info:**

Laurent Freytrich  
[laurent.freytrich@moovlab.fr](mailto:laurent.freytrich@moovlab.fr)  
[www.moovlab.fr](http://www.moovlab.fr)