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## Partner search

Date (03-08-2020)

- **Indicate numbers of relevant topics for Green Deal call:**

**LC-GD-1-1-2020:** Preventing and fighting extreme wildfires with the integration and demonstration of innovative means

- **Quick description of the project**

CEA-Leti offers a unique added-value proposal for innovative solutions (up to high TRL) for the **prevention and detection of extreme events** including wildfires and hazardous exposures (CBRN threat, chemical pollution), as well as for **innovative wearable devices** for health and stress monitoring of first-responders.

CEA-Leti creates value and innovation through technology transfer to industrial partners and end-users, and can bring along its **collaborative networks of SMEs and French firefighters** (Departmental fire and rescue services).

- **Do you intend to apply as ? :**

Coordinator: No

Participant: Yes

**Description of the expertise proposed (up to 1000 characters) - specify which points of the "expected impact" of the call you are targeting**

**50% reduction in accidental fire ignitions / 55% reduction in emissions from wildfires**

**0 fatalities from wildfires**

- **Environmental surveillance with miniaturized / portable systems**
  - Full analytical chain from sample collection in the air to fast and specific characterization, including sample preparation
  - System integration, electronics, data analysis and communication (autonomous device)
  - Prototyping of devices (usability studies)
- **Health and stress monitoring of first-responders with smart wearable devices**
  - Smart-Monitoring *On-Vivo* of biochemical and biophysical parameters (multi-parametric) : reliable, robust, conformable, secure and autonomous
  - Non-invasive monitoring: skin interface/sensors with innovative materials
  - System integration, electronics, data analysis and robustness, communication
- **Key technologies :**
  - Highly efficient airborne particle collection (from 10 nm to several  $\mu\text{m}$ ) using an ultra-portable device: suitable for individual monitoring or for a drone
  - Standardized microfluidics (ISO): from design, chemistry to packaging
- **Background :** <https://cordis.europa.eu/project/id/242306/reporting/de>, <http://www.leti-cea.com/cea-tech/leti/english/Pages/What's-On/News/arise-project.aspx>, <http://www.proetex.org/>, <https://www.sciencedirect.com/science/article/pii/S0925400515305827>

**+key words :** environmental surveillance, health and stress monitoring, airborne particle ultra-portable collector, particles, smart wearable devices, microfluidics, collaboration with SMEs and French firefighters



### Organisation information

<b>Organisation and country:</b> CEA Leti (Grenoble, France)
<b>Type of organisation:</b> <input type="checkbox"/> Enterprise <input type="checkbox"/> SME <input type="checkbox"/> Academic <input checked="" type="checkbox"/> Research institute <input type="checkbox"/> Public Body <input type="checkbox"/> Other: Association
<b>Former participation in FP European projects?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Web address:</b> www.leti.fr
<b>Description of the organisation:</b> The Microtechnologies for Biology and Health Division of CEA Leti focuses on the development of innovative tools, methods and systems for applications in the fields of in vitro diagnostic, wearable medical devices, delivery systems, pharmaceuticals, and <b>environment (agro/agri) monitoring</b> . Our core research and development competencies are biology, chemistry, <b>biochemistry, sensing technologies, microfluidics, imaging technologies</b> , and signal processing algorithms. Our strategy is to serve the industry and answer to the health and environmental challenges, going toward miniaturization, multi-modality and connected devices, delivering prototypes “ready to transfer” to industrial partners.

### Contact details

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