



Project Partner Search Form

I offer my expertise to participate as a Partner in a Horizon Europe Project

I am planning to coordinate a project and I am looking for Project Partners

TOPICS OF INTEREST

- Electrical interfaces for energy harvesting for new materials and effects: we develop low-cost solutions (with proof-of-concept using off-the-shelf components) able to optimize the energy extraction of multiphysic transducers such as piezo/pyroelectric materials, thermoelectric modules or electromagnetic systems
- Multi-source/multi-effect energy harvesting: we can provide solutions for optimized interfacing (structure and/or electrical circuit) of materials (or collection of materials) feature several types of electroactive coupling (e.g., piezoelectric/electromagnetic or piezoelectric/pyroelectric)
- Development of self-powered demonstrators (sensors): we have the expertise for developing at lab scale and using off-the-shelf components full demonstrators including materials, electronic interface (with power management unit), sensing unit and telecommunication system.

We are interested in the following calls under the Horizon Europe programme:

CL4-2022-DIGITAL-EMERGING-02-18 / 2D materials-based devices and systems for energy storage and/or harvesting

PARTNER INFORMATION

INSA Lyon is an engineering school dedicated to applied sciences, which makes it a large and unique research centre that joins education activities, 23 research laboratories (more than 700 researchers and teacher-researchers), and industrial partners (over 1.000 industrial contracts a year). As an academic oriented to industry, our institute carries out research in engineering sciences for RTOs and companies looking for technological solutions. The INSA Lyon scientists contribute daily to overcome the essential challenges of research within five main areas: 1) Digital Society and Information, 2) Energy for a Sustainable Development, 3) Environment: Natural, Industrial, and Urban Environments, 4) Global Health and Bioengineering and 5) Transport: Structures, Infrastructures, and Mobilities. INSA Lyon has participated in more than 30 H2020 projects.

Laboratoire de Génie Electrique et Ferroélectricité (LGEF) @ INSA Lyon

- Fifteen years of experience, 50+ SCI papers and 50+ conference communications (incl. invited and plenaries) in the field of energy harvesting (vibrations with piezoelectric or electromagnetic transducers, thermal...), with expertise in electronic interfaces (AC/DC conversion, nonlinear treatment for conversion magnification).
- Expertise in the design of self-powered systems, with application to sensing, SHM, health, transportation...
- Development of global approaches (from material to system) for self-powered devices.

Description of the Legal Entity

Higher Education

Research Institution

Public Administration

Industry /SME

NGO

Other: *Please specify*

Description of the (Research) Team

LGEF aims at developing electroactive smart materials and their applications. The lab experience covers materials aspects as well as applications of active materials, including energy harvesting and self-powered systems. LGEF developed an innovative energy harvesting technique (Synchronized Switch Harvesting) which is one of the most efficient techniques for optimizing energy conversion.

Expertise of the Team Leader

Prof. Lallart works as a full Professor at the LGEF at INSA Lyon.

His current field of interest focuses on electroactive conversion and its application to vibration damping and energy harvesting, as well as autonomous, self-powered wireless systems. Since 2006, Prof. Lallart published more than 100 papers in international peer-reviewed journals and authored more than 90 conference papers including 9 personally invited talks and 3 plenary talks. He edited 6 books and participated to 9 book chapters and reviewed more than 250 manuscripts for various journals. Prof. Lallart was also recipient as PI or key partner of national and international academic projects funded by French National Research Agency or European Union for instance, and participated to several industrial collaborations as well.

Potential role in the project

- Research Training
 Dissemination Other: *Please specify*

Already experience as a	Coordinator (no European projects)	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Partner	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
	Expert Evaluator (no European projects)	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

CONTACT DETAILS

Contact Person: Mickaël LALLART
Organization: INSA LYON / LGEF (Electrical Engineering and Ferroelectricity Laboratory)
City: Villeurbanne
Country: France
Phone: +33 (0)4 72 43 74 28
Email: mickael.lallart@insa-lyon.fr
Organization Website: https://lgef.insa-lyon.fr/en
Contact Person Webpage:

Date: 03/12/2021

Please send this form back to: pcn-tic@recherche.gouv.fr