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**Partner search**

**Date (2-07-20)**

* **(\*) Indicate numbers of relevant topics for Green Deal call:**

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| **LC-GD-**  **Main area: Area 2.1:** Develop and demonstrate a 100MW electrolyser upscalling the link between the renewables and commercial/industrial applications  **Secondary area: Area 5.1:** Green airports and ports as hubs for sustainable and smart mobility. |

* **Quick description of the project**

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* **(\*) Do you intend to apply as:**

**Coordinator: No**

**Participant: Yes**

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

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

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| The “hydrogen and electrochemical systems” research team of the LEMTA has developed a unique expertise, in France, in design and manufacture of segmented and instrumented electrochemical cells for energy applications (PEM fuel cell and electrolyser, Redox Flow Battery), and in the analysis and the modeling of their global and local operation and aging. The researchers are specialists in transport phenomena (charge, heat and mass) and has developed strong competences in electrochemistry.  In the team “management of the electrical energy” at the LEMTA, the researchers are specialists in power electronics applied to energy systems. Their research interests include the stability study of distributed power systems, the design, the modelling and the control of power electronic systems and since recent years the distributed control of multi sources multi carrier microgrids.  For electrolyzers the two groups work on internal heterogeneities induced by large active surface area of the cells designed for high power systems, ageing and on designing suitable power electronic converters for the energy management, optimizing the energy management strategy and control laws to improve the overall efficiency and to limit the degradation of the electrochemical components and increase the life span of the electrolyzer.  **key words:** transport phenomena, electrochemistry, power electronics, ageing, optimization. |

**Organisation information**

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| **Organisation and country:**  LEMTA – Université de Lorraine – CNRS – FRANCE |
| **Type of organisation:**  **~~□ Enterprise □ SME~~ ⊗ Academic ~~□Research institute □ Public Body □ Other: Association~~** |
| **Former participation in FP European projects?**  **⊗ Yes □ No** |
| **Web address:** [**https://lemta.univ-lorraine.fr/**](https://lemta.univ-lorraine.fr/) |
| **Description of the organisation:**  The LEMTA is a joint Université de Lorraine and CNRS (French research national council) research unit working on adding to knowledge in the field of Engineering Sciences. Its research activities are centred around energy, heat and mass transfers in complexe systems and fluid mechanics, with a special group working on electrochemical systems. The research work at the Lemta is carried out by nearly 80 researchers and teacher-researchers, 25 administrative and technical staff in different research support departments and 65 doctoral and post-doctoral collaborators. |

**(\*) Contact details**

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**(\*) –Mandatory**