**Partner search**

**Date (DD-MM-YY)**

* **(\*) Relevant topic in work programme**

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| **LC-GD-2.1:**Demonstration of innovative critical technologies to enable future large-scale deployment of offshore renewable energy technologies and their integration into the energy system |

* **Quick description of the project**

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| **(describe the objectives, activities, partners requested and their skills)** |

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

**Participant : Yes**

**Coordinator : No**

**(\*) 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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| **Xxxxxxxxx****+ key words :**  |

**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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| Expertise proposed for off-shore wind (wind blade manufacturing).IPC has developed the HYPROD2 platform for manufacturing of smart composite parts towards the integration of sensors in the composite structure as tools for Structural Health Monitoring. This platform offers the following equipment and services:* Design of smart composite products & processes simulation
* Elaboration and qualification of functional semi-products with integrated electronics or/and conductive elements: dry reinforcement with conductive fibers; functional preforming associating dissimilar materials (film, dry reinforcement, prepreg)
* Manufacturing and qualification of smart composite parts with various processes depending on the target configurations (vacuum assisted infusion, compression process, etc.)
* Characterization of smart composites: static mechanical properties; dynamic mechanical properties (high-speed solicitation); thermal & electrical conductivity; impact of sensors on the mechanical strength of the final product, etc.

In addition, IPC offers its expertise in multi-scale modelling. In particular, IPC has developed the OSLO (Optimal Sensors LOcations) methodology in order to define the optimal location of the sensors into a smart composite part. This multi-scale model can be used to define a virtual design of experiment in order to analyze variance and sensibility of effect considering different boundary conditions.  **+key words :** **Advanced composite manufacturing, smart composite materials, SHM** |

**Organisation information**

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| **Organisation and country:**IPC is the Technical Centre of the French plastics and composites industry, France |
| **Type of organisation:****□ Enterprise □ SME □ Academic □Research institute □ Public Body □ Other: Association** |
| **Former participation in FP European projects?****□ Yes □ No** |
| **Web address:** |
| **Description of the organisation:**IPC is the Technical Centre of the French plastics and composites industry, with more than 2500 SMEs directly connected to IPC. As such, IPC is in charge of providing the plastics and composites industry with innovative and high added value facilities and manufacturing pilot lines, cutting edge expertise and services. IPC covers the full industrial value chain with its key fields of expertise including design and simulation of parts and processes, advanced processing (injection, compression, hybrid …) and tooling, thermoplastics materials, composite materials, plastronics / 3D-MID and Circular Economy. Main markets addressed today encompass automotive, aeronautics, health, packaging, connectors, house appliances, horology. Developing new value chains is a key strategic issue for IPC with focus e.g. on micro / nanostructured plastic parts, microsystems on plastics, smart composites, multi-materials additive manufacturing. |

**(\*) Contact details**

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**(\*) –Mandatory**