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**Partner search**

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

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

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| LC-GD-1.2 LC-GD-1-3 LC-GD-2-1LC-GD-2-2LC-GD-3-1LC-GD-3-2LC-GD-4-1LC-GD-5-1LC-GD-6-1LC-GD-8-1LC-GD-11-1 |

* **Quick description of the project**

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

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

**Coordinator: ~~Yes/~~No**

**Participant: Yes~~/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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| The biorefinery team of the Department of Process Engineering FME CTU in Prague is the team of mechanical engineers who can endorse a consortium by these research activities and expertise:* Experimental and CFD studies and optimization regarding momentum, heat and mass transfer, process characteristics and energy requirement in a process equipment regarding:
	+ hydromechanical equipment (fluid transport, filtration, settling tanks, centrifuges, fluidization);
	+ mixing process and mixing equipment, technologies and equipment to produce dispersions;
	+ mechanical size reduction machines;
	+ heat transfer equipment (exchangers, evaporators, driers, heating and cooling of substances, ohmic and microwave heating);
	+ mass transfer equipment (absorption, adsorption, distillation and rectification, crystallization and dissolution, extraction);
	+ gas cleaning and purification using membrane processes;
	+ reactors, bioreactors and photobioreactors.
* Defining scale-up/down rules of processes and equipment.
* Design of equipment and its implementation to technological sets or production lines - optimization of process equipment in the terms of design, technical limits, intensification of transfer phenomena, economics, environmental friendliss, safety of operation.
* Design and optimization of technologies in biorefinery concept – design of technology using Excel and AspenPlus, emission-free technology, optimization, sensitivity analysis.
* Modelling and control of processes, equipment and production lines.

**+key words :** experimental and numerical analysis of transfer phenomena in process equipment, scale-up, design of equipment, design of technologies, techno-economic study |

**Organisation information**

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| **Organisation and country:**Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Process Engineering, Czech Republic. |
| **Type of organisation:**~~□ Enterprise □ SME~~ □ Academic ~~□Research institute □ Public Body □ Other: Association~~ |
| **Former participation in FP European projects?**□ Yes ~~□ No~~ |
| **Web address:**<http://pt.fs.cvut.cz> |
| **Description of the organisation:**The Czech Technical University in Prague is one of the largest and oldest technical universities in Europe with experiences in more than 80 Horizon 2020 projects. The Department of Process Engineering of the Faculty of Mechanical Engineering of the Czech Technical University in Prague is engaged in designing technologies, design and construction of machinery and equipment for food, chemical and process industries, ecology and waste treatment technologies. Its research and development activities scope to design and model fluid flow in pipeline networks, design and model mechanical, hydraulic separation, heat and diffusion separation processes and equipment, mixing and mixing processes and equipment. Simulations of separation and reaction processes and equipment designs from partial machines and equipment to complete technologies, including their energy optimization, are also included in R&D activities. |

**(\*) Contact details**

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| **Contact person name** | assoc.prof.Ing. Lukas Kratky, Ph.D.Czech Technical University in Prague, Faculty of Mechanical Engineering, Department of Process Engineering |
| **Telephone** | +420-224-352-550 |
| **E-mail** | Lukas.Kratky@fs.cvut.cz |
| **Country** | Czech Republic |

**(\*) –Mandatory**