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**Partner search**

**Date (29-07-20)**

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

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| **LC-GD-7-1-2020 : Ecosystems and Biodiversity** |

* **Quick description of the project**

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| We aim to assess at full-scale a new remediation concept based on in-situ designed bio-filters to stimulate the stream self-purifying capacity by reshaping geomorphology and thus directing interstitial water fluxes. The new device consists of stony ramps made of pebbles built across the riverbed (porous groynes), without blocking river flow continuity: they act as filters both physical (organic matter and nutrient trapping) and biochemical (metabolising, assimilation and mineralization of trapped pollutants). Also, we aim overall at restoring and upgrading the self-purification capacity of small urban rivers, dry for part of the year (ephemeral streams), by upgrading their resilience to pollution from discharges of Combined Sewer Overflows occurring at low flow periods. Finally, We want to transfer at the operational scale the research results from three past research projects on the hyporheic biological and flux processes, and so, validate in the "real life" (TRL 6 to 9) the results, already confirmed at lab and pilot scales. The field site data will back up a mathematical model expressly designed for design offices. The project involves an ethnological approach to understanding local water resource management techniques, barriers and opportunities for the adoption of nature-based techniques, such as socio-economic issues or water symbolism. |

* **(\*) 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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| Convinced that the deployment of innovative solutions demands an in-depth knowledge of the expectations and mentality of the beneficiaries, in order to offer them tailor-made solutions sustainable over time. We seek to establish partnerships with teams invested in the development of water systems with, if possible, actions towards African countries.  + key words : economy, sociology, hydrogeomorphology, river managers, water system managers |

**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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| Our expertise mainly focuses on water resource management, reducing pollutant impact on aquatic ecosystems, reducing vulnerability to flood and drought hazards. We propose expertise in hydraulic and solid transport modeling in rivers, natural and urbanized flow regime modeling, urban pollution monitoring in surface and hyporheic flows and management rules at the basin scale, based on EcoHydrology principles. We also develop new interdisciplinary eco-engineering to enhance the natural transfer and purification capacities of running waters.  Our expertise also concerns the sociological dimension of water resource management through the ethnographic study of the collectives of people concerned, issues, water practices and representations.  **+key words : Eco-hydrology, Geo-biochemistry, Hydrology, Hyporheic zone, selfpurification** |

**Organisation information**

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| **Organisation and country:**  INRAE France |
| **Type of organisation:**  **□** Enterprise **□** SME **□** Academic **⌧Research institute □** PublicBody **□** Other: Association |
| **Former participation in FP European projects?**  **□ Yes ⌧ No** |
| **Web address:**  https://www.inrae.fr/en |
| **Description of the organisation:**  The National Research Institute for Agriculture, Food and the Environment (INRAE) is a public research establishment with a working community of 12,000 people, with more than 200 research units and 42 experimental units located throughout France. INRAE is one of the world's leading institutions in agricultural and food sciences, plant and animal sciences. Its research aims to build solutions for multi-performing agriculture, quality food and sustainable management of resources and ecosystems.  RiverLy Research Unit combines skills in ecology, microbiology, ecotoxicology, environmental chemistry, hydrology and hydraulics. Our researches cover multiple scales from microhabitats to large catchments and global scales. |

**(\*) Contact details**

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**(\*) –Mandatory**