


Partner search template¹

Organisation	
Description	<p>The Biopolus Institute is a privately owned nonprofit research and development organization based in Budapest, Hungary. It was founded in 2012 as an innovative R&D Centre with a unique combination of water technology, biotechnology and IT. Biopolus is developing a range of its own technologies for addressing some of the typical challenges present when moving towards a circular economy. These developments range from innovative water treatment technologies to biological production systems and urban farming solutions.</p> <p>The primary focus area of the Institute is the development of integrated smart solutions for improving the efficiency and sustainability of cities. Biopolus represents a move toward incorporating circular economy practices into cities with the development of smart urban infrastructure planning. Biopolus integrates water recycling, biological manufacturing, energy recovery technologies and community functions (like office, education, entertainment, etc.) in a modularly designed and architecturally compact system, which fits into any densely populated urban environment.</p> <p>Biopolus Institute is working together with several international partners to develop intelligent water, energy, waste management and biological production systems that make the operation of cities cheaper, safer and more efficient.</p> <p>http://www.biopolus.net/home</p>
Type of organization	nonprofit
Up to 5 keywords describing your sector or specialisation	water treatment, circular economy, bioeconomy, engineered ecosystem design, dynamic computer simulation
Experience	
Participation in EU funded projects	<p>H2020, euPOLIS – Integrated NBS-based Urban Planning Methodology, grant agreement No 869448, 2020-2024, www.eupolis-project.eu</p> <p>H2020, NEXTGEN - Circular Water Solutions, grant agreement No. 776541, 2018-2022, www.nextgenwater.eu</p> <p>(external expert / subcontractor) Interreg Central Europe / CIRCE2020: Expansion of the CIRcular Economy concept in the Central Europe, 2017-2020, https://www.interreg-central.eu/Content.Node/CIRCE2020.html</p>
Project idea	

¹ [Based on the Horizon Europe – Guide to an adequate partner search](#)

<p>Reference Call/topic of interest</p>	<p>Mission ‘Restore our Ocean and Waters by 2030’</p> <ul style="list-style-type: none"> • HORIZON-MISS-2021-OCEAN-02-01: European Blue Parks • HORIZON-MISS-2021-OCEAN-02-02: Danube River Basin Lighthouse - Restoration of freshwater ecosystems
<p>Description of the project idea</p>	<p>In combining water engineering experience with architectural and ecological engineering knowledge, Biopolus has developed a unique solution for the urban market, the so-called BioMakery. Biomakeries use Biopolus MNR reactors to provide aesthetically pleasing, odorless water treatment solutions that fit well into any environment, easily blending into their surroundings. The Biopolus technology can be used to treat, rehabilitate, and maintain urban waterbodies such as natural lakes, artificial ponds, decorative fountains, groundwater, and canals. The system boosts the natural self-cleaning mechanism of these waterbodies, helping to prevent eutrophication and contamination when contamination loads from urban pollution and agricultural runoff are high.</p> <p>Just imagine a small, beautiful greenhouse pavilion in the middle of the city on the waterfront, where plants and reactors work in a unique collaboration in controlled conditions, continuously in winter and summer. See below an example, an architectural rendering of a BioMakery in Asia (lakeside view):</p>  <p>We propose to build a pilot BioMakery at a selected site for demonstration activities – for purification and rehabilitation of the local urban waterbodies. Water reuse functions of the BioMakery can be varied and complemented with other functions (e.g. energy recovery, material recovery, public spaces for community interaction and/or education) as the project envisages. In addition, beyond testing the pilot system, we propose to investigate how such smart urban systems can be connected to larger networks, how urban water and biology can be assisted by engineered ecological systems. By simulating and modelling the integration of a working pilot into a larger system, a new methodology would be developed.</p>
<p>Up to 5 keywords</p>	<p>restoration of urban waterbodies, biodiversity restoration, engineered ecological system, nature-based solution, smart water network</p>

describing your project idea	
Expertise and contribution offered	
Contribution offered	<p>We offer KNOW-HOW: We provide knowledge on how to intervene in the ecology of urban waterbodies using engineering methods, and how to restore and maintain the ecological balance of these waters. We do this by simulating and modelling complex biological systems. Also, we use modelling to design a new distributed and interconnected network of these innovative water treatment and rehabilitation systems (hubs) using data and experience gathered during the evaluation of the demonstration facility's operation.</p> <p>We offer TECHNOLOGY: As a technology provider, Biopolus will provide preliminary engineering services during the design phase, deliver key technology related components for construction, provide technology consulting throughout the process, and perform inspections for start-up and commissioning.</p> <p>In the field of ecological engineering & urban circularity we have a global network with a focus on Asia, the Gulf region, and Europe. We provide consultancy services and technology to large local companies.</p>
Role offered (Coordinator, Work package leader or partner)	project partner
Expertise needed	
Description of the expertise needed	Consortium that we can join with the know-how and technology described above.
Expected contribution	Consortium that we can join with the know-how and technology described above.
Deadline for the search	preferably until 15 March 2022
Contact details	
Organisation	BIOPOLUS INTEZET NONPROFIT ZRT.
	Ágnes Gyuró

Contact person	
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