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Establishing a zero-pollution circular economy: an overview of the Horizon2020-Green Deal project PROMISCES

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The PROMISCES project aims to understand the origins, routes and fates of industrial persistent, mobile and potentially toxic pollutants (iPM(T)s), including per- and polyfluoroalkyl substances (PFAS). These substances, also called “forever chemicals”, can be harmful to the environment, human health and circular economy resources.

PROMISCES will develop, test and demonstrate, new technologies and innovations to prevent, monitor and remediate iPM(T)s in the soil-sediment-water system under real-life conditions in the field. In this way, PROMISCES will establish more cost-effective, sustainable and ecological technologies for remediating PFAS and iPM(T)s.

The project will support the European Green Deal goals and sustainability roadmap of urbanised areas by reducing the environmental impacts on waters (surface and groundwater, urban runoff, drinking waters, wastewater, landfill leachate), soils (contaminated sites, brownfields) and dredged sediments (river, seaports) and of nutrient and material recovery (from sewage sludge to recovered fertilisers, dredged sediments to valorised materials, reclaimed water to crops).

To pursue this objective, PROMISCES is centered around seven representative case studies in different European regions linked with challenging chemical pollution, including locations in Spain, Italy, Bulgaria, France, Germany and the Danube river basin between Vienna and Budapest.

This Horizon2020-Green Deal project will address key technological challenges while also developing recommendations for implementing relevant EU plans - such as the Zero Pollution Action Plan, the Circular Economy Action Plan and the EU chemicals strategy for sustainability - and EU policy directives, such as the Sewage Sludge Directive and the Water Framework Directive.