

## Innovative methodology to prevent and mitigate diffuse pollution from urban water runoff



### TO ADDRESS

- Comprehensive monitoring protocol & advanced sensing for urban diffuse pollution controls
- Identification of critical sources of urban diffuse pollution
- Novel planning approaches for sustainable SW management
- Implementation and validation of GI for diffuse pollution mitigation
- Risk assessment for UWR management and reuse



### FOR

- **End-users:** Municipalities, water utilities, public authorities, citizens
- **Lead-users:** Environmental consulting firms, green infrastructures suppliers, software developers, monitoring solutions providers
- **Scientific community:** water technologies, environmental sciences, chemistry, computer engineering, etc.



### Innovation

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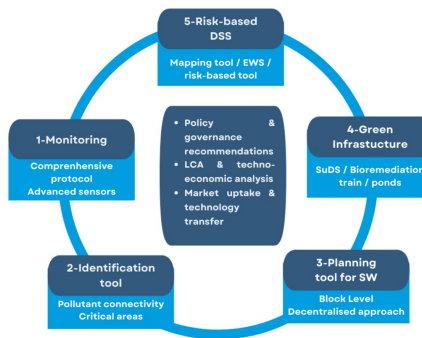
## WATERUN approach

### WHY?

- Environmental concern**
- 38% of EU surface waterbodies are affected by diffuse sources.
  - PAHs / heavy metals are the most toxic and concentrated pollutants in UWR, while microplastics are significant emerging pollutants.
  - Climate change influence significantly UWR (extreme floods, droughts)
  - Policy compliance (Zeropollution, Green Deal,...)
- Knowledge gap**
- Complex cityscape where many sources and types of pollutants are present.
  - Lack of appropriate monitoring strategies.
  - Unreliable information on the climate change impacts.
  - Poor efficiency of GI.
  - Lack of effective regulation & governance fragmentation).

### WHAT?

WATERUN UWR management methodology (from source identification to decision-making)



### HOW?

- Project implementation**
- Multi-actor co-creation process: LSB and ISB.
  - Interdisciplinary consortium.
  - Validation in 3 climate zones, land use and UWR reuse purpose
- R&D Innovation**
- Monitoring protocol for UWR and on-site sensors for PAHs and microplastics.
  - Innovative modelling tools for diffuse pollution control.
  - GI optimisation for diffuse pollution mitigation.
  - Risk-based DSS for decision-making.

## Demonstration

### Specific needs

- ✓ Water related risks mitigation & Water security
- ✓ More resilient and cost-effective water infrastructures and services
- ✓ Less-leakage, integrated and flexibility adaptative water management
- ✓ Effective and integrated framework of governance
- ✓ Increased knowledge and common frame of reference for safety measures and levels of risks

### R&D Innovation

- ✓ Monitoring protocols for UWR and on-site sensors for PAHs and microplastics
- ✓ Innovative modelling tools for diffuse pollution control
- ✓ GI optimisation for diffuse pollution mitigation
- ✓ Risk based DSS for decision making

### Project implementation

- ✓ Multi-actor co-creation process: LSB and ISB
- ✓ Interdisciplinary consortium
- ✓ Validation in **3 case studies** in 3 climate zones, land use and UWR reuse purpose

### 3 case studies



### 4 pillars



### Consortium



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