BEPROACT

Data-driven infrastructure management and predictive maintenance.

Interreg North-West Europe — Co-funded by the European Union

BEPROACT

Inspiration

Society depends on critical infrastructure assets e.g. highways/traffic management systems, built environment and water plants to ensure the safety and well-being of citizens. These are crucial for the smooth operation of economic activities.

Digitalisation is one of the strongest drivers of societal transformation. Authorities that manage public assets have difficulties to keep up. Digitalisation has the potential to ensure a safer, more efficient and sustainable and beneficial management, but it requires transformation, cooperation and upskilling of both the "engineering" as well as the "IT" side. The need for transformation is urgent.

Public infrastructure is broadly confronted with end-of-life issues, decreasing reliability due to malfunctions, limited availability and increasing costs for maintenance. As a wide range of large infrastructures have been constructed decades ago, renovations and replacement are piling up. This complex and urgent transformation, represents an enormous challenge for stakeholders involved.

Innovation

BEPROACT's overall objective is to jointly plan, explore and facilitate implementation for the transformation towards a data-driven management of public vital infrastructure assets along a Data Enrichment Cycle. The aim is to allow for a more efficient, beneficial, and safer approach, taking up advanced technological and methodological knowledge products/services and including all public, private and innovation stakeholders along the lines of responsibility.

At least 15 new digital services and knowledge products will be jointly developed and validated in real-life environments for different territories and asset types (bridges, water, roads, buildings, etc.).

LIST will contribute to the design of a strategy for data-driven management of infrastructural assets, and the prototyping of the concept of data spaces as an enabling technology for the data flows streamlining between ecosystems and across silos and for the implementation of innovative, data-driven collaboration models, between public, private and innovation parties

Impact

Data-driven asset management provides a solution: doing the right work, just in time. It saves money, reduces the use of materials and energy, and ensures the good use of scarce capacity. It is sustainable, because the asset lifetime can be significantly lengthened.

BEPROACT main outputs will include:

- designing jointly a transnationally applicable strategy for the transition to more data-driven management of infrastructural assets with frameworks targeted at different asset systems and relevant stakeholder groups and institutional capacity.
- developing & implementing advanced open innovative solutions and methodology. Creating a transnational ecosystem with digital services and tools along a Data Enrichment Cycle supporting more data-driven asset management in North-West Europe regions/sectors.
- facilitating wide-spread application and long-term anchoring of project insights in the educational routines of stakeholders through knowledge management, sharing, networking, and transnational uptake.

Partners

The Autobahn GmbH of the Federal Government (DE) , Dublin City Council (IE) , Federal Highway Research Institute (DE) , Flanders Environment Agency (BE) , GEOSPARC (BE) , Ministry of Infrastructure and Water management – Rijkswaterstaat (NL) , Netherlands Organisation for Applied Scientific Research (NL) , Région Bourgogne Franche Comté , RTC4Water - Real Time Control of Water Infrastructure Luxembourg (LU) , Université de Lille (FR)

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