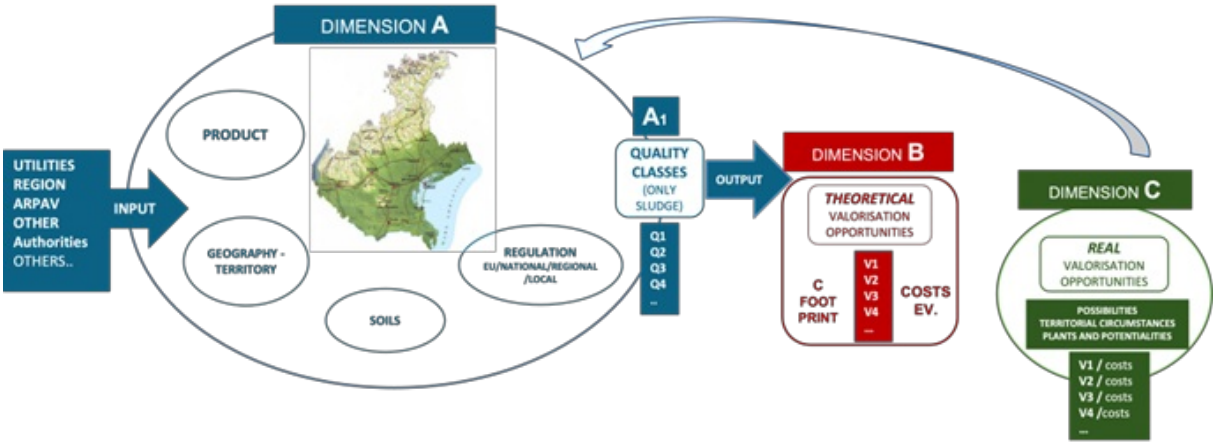
## Product factsheet

# Sludge management platform

A software supporting the Circular Economy




## Description

The aim of the **sludge management platform** is to support the identification of the optimum sewage sludge (from municipal wastewater treatment) valorisation strategy in order to foster resource reuse/recovery either towards agricultural application or energy production. The platform allows evaluation and ranking of treatment options and valorisations, considering information from the geographical, environmental, economic, social and political context.

Three main functional areas are available to the users. Such functionalities can be used individually or in combination:

- **Context awareness** (dimension A): this area is to be considered a place were collecting and making available to the users the key information related to the territory, including quality and quantity of sludge, producers, treatment plants and destinations; characteristics of the territory related to climate, urbanization, industrial plants, cultivated lands, state of soil, regulations at different levels, with information about barriers and drivers.
- **Theoretical valorisation opportunities** (dimension B): this area is dedicated to the potential technologies and treatments to be applied to the quality classes identified in the previous area. This area is particularly important for the sludge platform, where the user can assess the quality class of its resource, matching the quality level to the compatible treatments and getting, as a result, a ranked list of valorisation opportunities (that are theoretically applicable) with some insight with respect to general sustainability and costs of the related treatments.
- **Real valorisation opportunities** (dimension C): using data specific of the territory, the user is able to filter opportunities with respect to what is actually feasible with the available plants, infrastructures and potentiality.

Target audience

Producers (i.e. utilities): they will get information about: i) the state of the art related to use/destinations opportunities of sludge; ii) regulatory framework in terms of general and local leverages and barriers; iii) ranked valorisation alternatives depending on product quality. The tool will support them in planning together with a long-term perspective by exploiting the potential existing synergies that just throughout this method could easily be identified. Authorities (Regions, Municipalities, environmental authorities): they will get scientific, standardized and reliable information about variables, characteristics, quality of sludge especially in terms of actual risks connected. Then they will get evidence for defining/revising regulations and plans towards fostering the best practices in the water sector, avoiding an excessively precautionary approach. End-users (such as sectoral associations e.g. for agriculture; industries/industrialists; urban areas managers): they will get a synthetic vision of the state of the art of resource valorisation pathways and shortcuts for valorisation pathways conveniences. Technologies providers (i.e. technology producers and distributors): they will get a high territorial point of view of the distribution of necessities and individuate potential synergies and market shortcuts.

## Owners of the product

ENGINEERING - INGEGNERIA INFORMATICA (ENG)

Veneziana Energia Risorse Idriche Territorio Ambiente Servizi SpA (VERITAS)

Contact person

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## Actors, their roles and interactions

Users of the platform (producers, authorities, end-users/destinations, technology providers) will have access to data visualization interfaces for getting context information (context awareness). Producers will also get access to workflow features that will allow the estimation of theoretical/real valorization opportunities.

## Unique selling points

Situational awareness is a key success factors for enabling decision-making processes, but the heterogeneity and dispersion of the relevant data leads to partial knowledge and difficulty in sharing key information among the actors of the water chain in the territorial context. The water reuse strategic platform acts as a diagnostic instrument and one-stop-shop where users can easily access data and information in order to highlight issues and opportunities that otherwise would be difficult to identify.

## Technical requirements

The sludge management platform is a web application that can be accessed and used on any web browser. It can be delivered in an “As a Service” mode. In addition, the software will be provided as a docker container in order to make the installation process as easy as possible.

### Software data

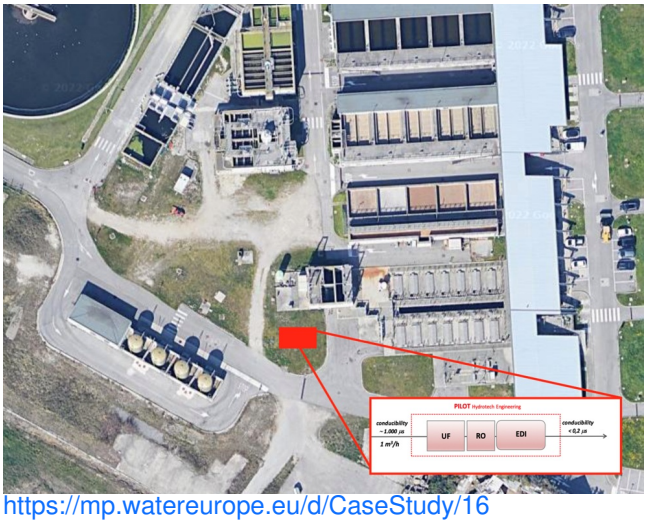
- Operating environments:
  - SaaS - Web application
- License: Open Source

## Technologies applied by the product

- **Nutrients/Material recovery technologies**
- **Energy recovery technologies**

## Case Study applying the product

### Venice, Italy




https://mp.watereurope.eu/d/CaseStudy/16

## Related tags

Reuse | Treatment | Quality | Sludge | valorization

## Technology Readiness Level

Level 6