

Valuable resources, raw materials and energy lie dormant in North-West Europe's 100.000 landfills. Many of these are also located in areas where land has become valuable because of high land pressure. After identifying the old landfills, deciding on what to do with them becomes an important question. To approach this in an unbiased and methodological manner, a new two-step Decision Support Tools (DST) has been developed within the framework of the RAWFILL project.

The choice of developing a two-step DST is rooted in the fact that organizations have limited resources. For this reason, the DST 1 - CEDALION tool allows for a quick screening of your landfill database. Promising landfills warrant further investigation, and potentially additional studies to characterize them, before using the DST 2 - ORION tool to get a more detailed analysis of potential uses of the landfill(s) and the feasibility thereof.

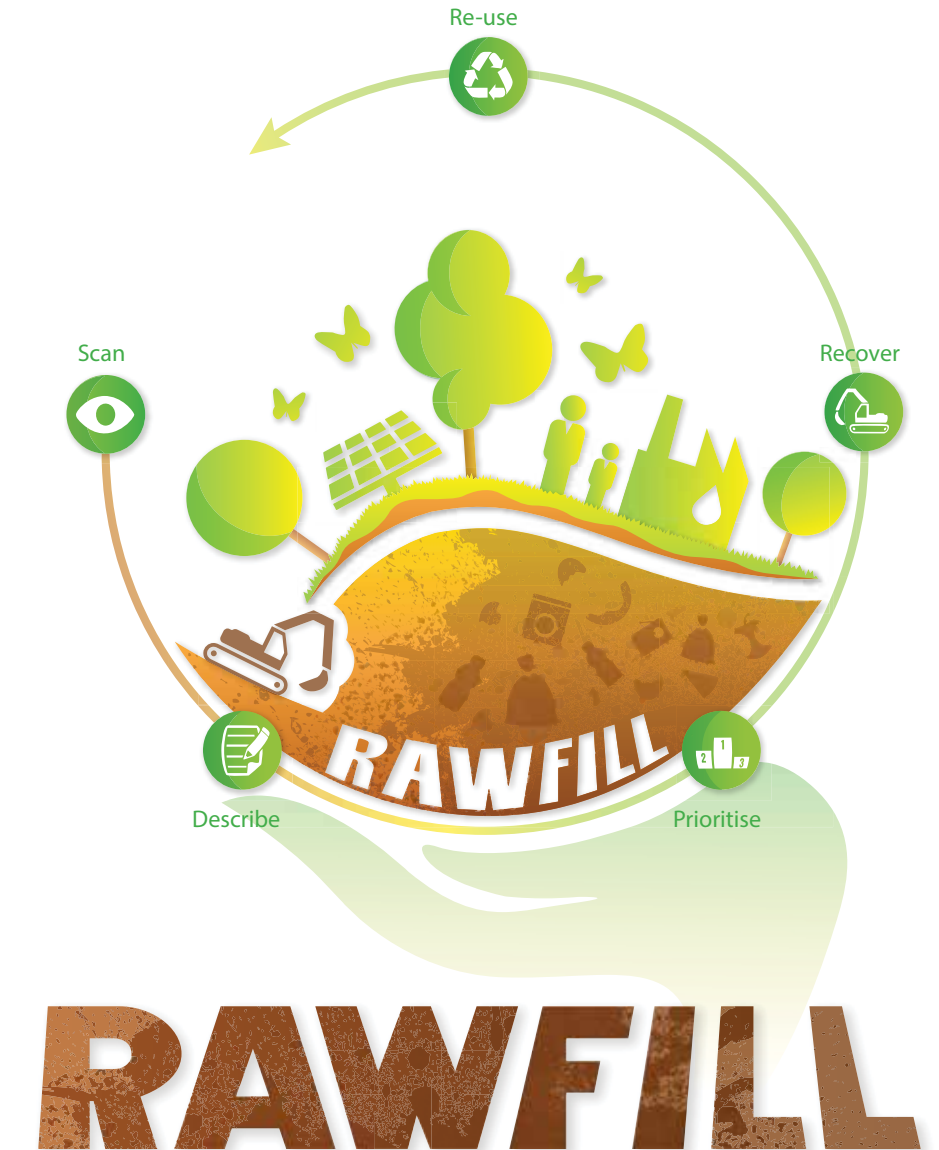
HERE'S HOW IT WORKS:

- 1 **Step 1:** Use the Cedalion field application to gather information of your landfills by doing a quick 360° exploration on site.
- 2 **Step 2:** Update your Cedalion working database by comparing the information in the general database and the observations made on site.
- 3 **Step 3:** Calculate the rankings for resource, energy and land recovery, and interim use for the landfills present in your database and check the results.
- 4 **Step 4:** Proceed with the landfills that obtained the highest scores in the Cedalion tool to the Orion tool, press the start button and follow the roadmap.
- 5 **Step 5:** Discover and use the models and tools in the dashboard to further assess the redevelopment opportunities for your landfills.

Want to know more about the Cedalion and Orion DSTs ?

TAKE A LOOK INSIDE!

Supporting a new circular economy for RAW materials recovered from landFILLS



RAWFILL

Supporting a new circular economy for RAW materials recovered from landFILLS

Decision Support Tools

DST 1 - CEDALION

Cedalion has been purposely designed to be a low threshold tool to help the decision making process on how to deal with landfills. The tool is built in a simple spreadsheet, making it accessible on almost all devices. Cedalion only needs the most basic information for each landfill to make its assessment, so efforts in the early stage will be limited. This information concerns the type of waste, the age and volume of the landfill, the current use and accessibility of the landfill and lastly the surroundings of the landfill. The output of this tool will give the user an idea about the potential of the landfill in terms of landfill mining and site redevelopment. If the mining potential for a landfill is not high enough in the foreseeable future, an interim use will be advised, on the condition that there is no risk for the environment. These temporary solutions will buy time, ranging from a year to several decades, and will deliver one or more (ecosystem) services to society.

USE IT BY FOLLOWING THESE SIMPLE STEPS:

- 1 Download **the Cedalion tool**.
- 2 If your managing authority maintains a database, copy the required information from your landfill database or ask your local waste management authorities for this information. If you are already using the Enhanced Landfill Inventory Framework (ELIF), simply import the data from the Cedalion input sheet.
- 3 Go on site and do a quick visual assessment to make sure that the information in the database is still accurate or needs updating.
- 4 Run the tool to obtain an overview of the potential of the landfills contained in your database for resource, energy and land recovery as well as interim use.

the Cedalion tool



DST 2 - ORION

Where the Cedalion tool was purposefully simple, this second Decision Support Tool, Orion, is designed to provide a greater detail and assurance in assessing potential uses of landfills.

This more complex tool needs more information to make better, more accurate assessments of the feasibility for the identified high potential landfill(s). A characterization study is highly recommended if the required information is not available. Consult **the Landfill Miner guide** for information on how to conduct these types of studies.

When the information is available, start up **the Orion tool**, which will take you to the Dashboard homepage. The Orion tool consists of two different parts, the Orion dashboard and the roadmap. The Orion dashboard provides the user with a collection of already existing models and tools that could be used when making decisions on the rehabilitation or revalorization of a landfill (i.e. landfill mining for material, energy and land recovery or interim use). The Orion roadmap directs the user towards the most relevant tools in function of the potential of the landfill, by posing questions to evaluate the feasibility of a possible landfill mining or rehabilitation project. Running through these models will yield a final assessment of the potential uses for the landfill(s) in question.

the Landfill Miner guide



the Orion tool



e-learning tool



Want to have more explanations about how to use the DST tools?

Watch the DST module on the e-learning tool!