

Interreg
Euregio Meuse-Rhine



litter free rivers
and streams



EUROPEAN UNION
European Regional
Development Fund



Final Report

LIVES Open Access Data System - LOADS

Report
Version 1.0



2bprojects
Asset Informatiemanagement

Colophon

	<i>General details of the client</i>
Client	Rijkswaterstaat Zuid-Nederland
Contact person	Mrs. L. Crijns
Address details	Avenue Ceramique NL-6221KV Maastricht
Contact details	T. +31 (0)88-7974150 E. lea.crijns@rws.nl W. www.rijkswaterstaat.nl
	<i>General contractor details</i>
Contractor	2bprojects B.V.
Contact	Mr. B. Essers
Address details	Dorpstraat 30 6227 BN Maastricht
Contact details	T. +31 (0)43-2057314 E. info@2bprojects.nl W. www.2bprojects.nl
	<i>Reporting</i>
Author(s)	Mr. Q. Buil
Title	Final report
Topic	LIVES Open Access Data System - LOADS
Status	FINAL v1.0
Date	23 December 2021

This project is supported by the Interreg V-A Euregio Meuse-Rhine program. The Lives project is being carried out within the context of Interreg V-A Euregio Meuse-Rhine, with 735.300 euro from the European Regional Development Fund.

Foreword

Before you lies the report "LIVES Open Access Data System – LOADS". The research into the necessary steps for the use of an Open Access Data System for litter in the Meuse was carried out in the context of work package 1 of the LIVES project. In addition to this research, a Proof of Concept of the Open Access Data System has¹ been realized.

This research took place in the period from November 2021 to December 2021.

Quinten Buil

Maastricht, 23 December 2021

¹ A Proof of Concept (PoC) is a method to determine the practical feasibility of a concept, theory, technology, idea or functionality. A PoC is applied in the initial stages of product development. The method is used to assess whether the idea can be realized. It is a 'try and test' method. In fact, an assumption is tested to find out whether the concept or idea is feasible.

Summary

This report investigated what needs to be done with regard to making and maintaining an Open Access Data System operational for litter in the Meuse in the context of work package 1 of the LIVES project.

On towards an Open Access Data System

An Open Access Data System is an open environment that is created in which the partners of LIVES can store, share and consult data and information about litter in the Meuse basin. The Open Access Data System aims to bring data and information about litter that is publicly accessible (open data) from the partners of LIVES together in one place. Information and data are presented visually on a map. It is visible from which organization information comes and how this information is created.

Cross-border insight

Bringing this open information together contributes to cross-border insight into the problem of littering. In addition to sharing data, information and results, such as analyses and reports, it is also possible to learn from each other's techniques and strategies. As a result, the threshold to cross-border cooperation is significantly lowered.

Differences between partners

Interviews with partners of LIVES have shown that the maturity level² with regard to an Open Access Data System is generally low between the parties and varies greatly. Some organizations are further ahead in the use of data systems and have already implemented many information processes in their organization. There is awareness about how to handle data. Other organizations still have to take steps in this direction. This research provides insight and therefore awareness and is the first step to increase the maturity level among the partners.

Monitoring litter in the Meuse requires data that can be compared with each other. This is because the Meuse is a cross-border river and therefore data must also be able to be compared cross-border. Data is currently generated by different parties with different methodologies. Differences in the process of how data is created and differences in how data is recorded ensures that data cannot be compared. This can be a problem if these processes are not well described and there is no generic basis. The uniformity of data and the underlying processes ensure that there is a generic basis that can be compared.

Policy as the foundation for an Open Access Data System

To build an Open Access Data System that supports the process of mapping litter, overarching data policies are needed. Data policy is about the systematic way of handling all matters that have to do with data. This data policy is necessary because it records all agreements and working structures regarding data within the organization. This policy does not say anything about how projects should be carried out in terms of content, but about the way in which data is handled.

The Proof of Concept³ that has been delivered in this assignment provides insight and therefore awareness. It is the first step towards raising the maturity level among LIVES partners. The data policy strengthens the growth in maturity level and lays the foundation for a fully functioning Open Access Data System. With the Open Access Data System, it is possible to work on a cross-border insight into the litter problem within the Euregio Meuse-Rhine. Data from all LIVES partners can be shared, compared and combined in one environment. The cross-border insight makes it possible to make analyses that extend beyond your own country.

² The 'maturity level' is a level that indicates to what extent an organization has secured knowledge, awareness and integration of a certain subject in its organization and how it deals with it. This report is about the maturity of a vision and use for an Open Access Data System and the associated processes.

³ A Proof of Concept (PoC) is a method to determine the practical feasibility of a concept, theory, technology, idea or functionality. A PoC is applied in the initial stages of product development, the method is used to assess whether the idea can be realized. It is a 'try and test' method. In fact, an assumption is tested to find out whether the concept or idea is feasible.

Transition to an Open Access Data System based on four pillars

The actions and activities required for the Open Access Data System to function are set out on the basis of the 4 pillars of information management. People, Systems, Processes and Resources.

The 'people' pillar covers all aspects of people and stakeholders in the organization. These persons (internal or external) directly influence the functioning of the organization⁴.

An example of this is a partnership. A partnership is a legal form in which 2 or more partners (the partners) jointly and under 1 name run a business. A partner runs his own business within the partnership and is responsible for this himself. This report focuses in particular on the association of partners who jointly undertake the use of the Open Access Data System.

The 'processes' pillar is about all processes and procedures that are involved in an organization.

In the 'systems' pillar, it is about which systems or system types are used in the organization to 'store' the data of the various information.

A goal-oriented organization allocates resources to be able to develop and maintain the organization. The pillar 'resources' is defined in particular in financial resources and knowledge for data management, but can also be about supporting tools.

People

Various organizations are active in the organized structure of the Open Access Data System and the joint cooperation on litter problems. These are the partners of LIVES for this project and they function as one organization in this.

Processes

The process describes the steps from defining the information demand to processing and managing data in LOADS. In this process, it is important that the dataset to be processed is representative. The definition of a representative dataset has been investigated in another study⁵. The data policy must safeguard the agreements that lead to a representative dataset. This research also describes an approach to how data can be centrally positioned in a project regarding litter. By following this process and the data policy, a representative dataset can be built up in every project about litter. The data and information is shareable and interpretable, allowing it to be compared in the Open Access Data System and combined with datasets that are also representative.

Systems

Setting up a system without an overarching policy is normally not the conventional route, but it can give direction in this situation. The Proof of Concept (PoC) provides insights into the technical possibilities of a data and information management system. In addition, the Proof of Concept provides insight into the necessary actions to set up such a system technically. By giving the system a modular and scalable design, the system can develop along with the data policy and the objective of LIVES.

The Proof of Concept is a starting point for the further design of the Open Access Data System. By experiencing the possibilities of an Open Access Data System in a Proof of Concept, thinking about requirements and wishes is triggered.

Resources

Making and keeping the system operational results in costs. These costs must be covered. The LIVES partners should determine how these costs are covered.

⁴ In this report, the 'organization' is about the organized structure surrounding the use and management of the Open Access Data System and the joint cooperation on litter issues. This organization is not one entity, but a structure in which different organizations and parties function.

⁵ 2bprojects B.V. (2021, December). Monitoring of plastics in the Meuse.

Recommendations

This document recommends which steps and/or actions should be taken to give substance to the described transition to an Open Access Data System.

Policy

- Place ownership of the process with the leading partner of LIVES (province of Limburg);
- Form a working group 'data policy' with a composition of all partners of LIVES and experts and place the direction⁶ of the working group with the leading partner of LIVES (province of Limburg);
- Use/combine existing data policies of one or more LIVES partners and make them specific to the objectives of LIVES with the points from section 2.4;
- Create commitment by having this policy document adopted by the partners of LIVES;
- Let an independent and expert market party direct⁷ the Open Access Data System on behalf of all lives partners;

People

- The partners of LIVES who work together on the common goal of monitoring litter in the Meuse cross-border with a joint data system must work together in this form as one organization⁸.

Processes

- Use the report on the monitoring of litter in the Meuse as a starting point to make agreements for generating a representative dataset;
- Use the approach from the report on the monitoring of litter in the Meuse as a starting point to position data centrally in a project about litter.

Systems

- Use the Proof of Concept to further develop requirements, wishes and needs with regard to an Open Access Data System;
- Use the Proof of Concept to grow in maturity with regard to working with data (quality) and a (full-fledged) Open Access Data System.

Resources

- Request for reserving capacity and costs per partner for the benefit of the working group;
- In the current phase, due to the lack of policy, it is not possible to give a concrete cost indication of making and keeping LOADS operational as an end product. The Proof of Concept can be used next year as a talking board and test environment for the development of LOADS. To use the Proof of Concept in this form, it is advised to reserve € 50.000,- for 2022. These costs relate to: licenses, maintenance and minor programming work.

⁶ Directing means coordinating, guiding and managing the tasks for the steering committee.

⁷ Directing means coordinating and guiding tasks with regard to LOADS and being in charge of the context of data quality.

⁸ In this report, the 'organization' is about the organized structure surrounding the use and management of the Open Access Data System and the joint cooperation on litter issues. This organization is not one entity, but a structure in which different organizations and parties function.

Table of contents

1	Introduction	- 8 -
1.1	Litter pollution – How did we get here?	- 8 -
1.2	Litter in rivers – A serious problem	- 8 -
1.3	The LIVES project – Cross border cooperation to reduce litter pollution	- 8 -
1.4	Structure of the LIVES project	- 9 -
1.5	Reading guide	- 9 -
2	LIVES Open Access Data System	- 10 -
2.1	Usefulness and necessity	- 10 -
2.2	Current situation	- 10 -
2.3	Transition phase	- 11 -
2.3.1	<i>Policy</i>	- 11 -
2.3.2	<i>Context</i>	- 12 -
2.3.3	<i>People</i>	- 13 -
2.3.4	<i>Processes</i>	- 13 -
2.3.5	<i>Systems</i>	- 14 -
2.3.6	<i>Resources</i>	- 14 -
3	Conclusion	- 15 -
3.1	Recommendations	- 15 -
3.1.1	<i>Policy</i>	- 15 -
3.1.2	<i>People</i>	- 15 -
3.1.3	<i>Processes</i>	- 15 -
3.1.4	<i>Systems</i>	- 16 -
3.1.5	<i>Resources</i>	- 16 -

Glossary

Process ownership	A process owner is a person or an organization that bears responsibility for the process. This responsibility includes: the definition of the process, the maintenance of that definition, the associated tools and the supporting materials.
Roles, tasks and responsibilities	<p>The roles, tasks and responsibilities powers and obligations of individuals and organizations within the policy.</p> <p>Roles: What is my function in the policy?</p> <p>Tasks: What is expected of me in this policy?</p> <p>Responsibilities: What do I need to take care of in this policy?</p>
Collection and processing protocol	<p>A protocol is an agreement, usually in the form of a number of steps to be carried out.</p> <p>A collection and processing protocol describes how data must be collected and/or processed and which requirements this must meet.</p>
Delivery specification	The delivery specification describes the requirements that apply when delivering and/or transferring information from party A to party B.
Data specifications	Data specifications describe which requirements data must meet in terms of notation and form.
Standardization	The use of standards contributes to the interchangeability of digital information. Standardization is about agreements so that all parties speak 'the same language' when it comes to data.
Acceptance criteria	Acceptance criteria are testable criteria that are used to verify whether a dataset substantively meets the minimum standard. This standard can be determined together. Acceptance criteria can be used to test whether the content of a dataset is sufficient to be accepted in the system.
Quality criteria	Quality requirements are testable criteria that are used to verify whether a dataset qualitatively meets the minimum standard. This standard can be determined together. Quality criteria can be used to test to what extent a dataset corresponds to the set data specifications in order to be accepted in the system.

1 Introduction

1.1 Litter pollution – How did we get here?

The past 70 years have seen a worldwide exponential increase in the production and consumption of products.⁹ New materials such as plastic revolutionized our way of living. However, this leap forward also has a shadow side to it: a large portion of these products have ended up in the environment through improper waste disposal and littering. This so called litter pollution is now everywhere: large amounts of plastics have accumulated in our oceans (also known as the ‘plastic soup’), in our rivers, and on land. We even find microplastics, which mainly stem from litter that is broken down in the environment, in the food we consume and the water we drink.

1.2 Litter in rivers – A serious problem

Litter pollution is produced on land through mismanagement of waste and littering. Only a small fraction of litter pollution ends up in the famous ‘plastic soup’ in seas and oceans. Most litter is (temporarily) retained in rivers.¹⁰ Here it has a range of negative effects on nature and fauna, it can increase flood risk due to blockage of drainage systems, and cause economic damage.¹¹ Due to the longevity of the materials in our waste streams, the ubiquity and large volume of it, litter pollution has become one of the most significant and challenging environmental problems of our times.

Key knowledge required to effectively tackle the litter problem is currently lacking. For example, very little is known about the sources of litter pollution, how much litter is exactly in our rivers, and where hotspots of litter can be found. Such knowledge is key for the design of effective litter reduction, mitigation, and removal strategies. This knowledge can only be gained through effective monitoring of litter in our rivers.

Rivers run cross-border, litter pollution therefore is a cross-border problem as well which requires international cooperation to solve. Monitoring is one of the areas where international cooperation is needed the most. International standardized methods to monitor riverine litter are currently lacking. This leads to data gathered by different countries to often be incomparable with each other, hindering the design of effective solutions to the litter problem.

1.3 The LIVES project – Cross border cooperation to reduce litter pollution

The Litter Free Rivers and Streams (LIVES) project is a cross-border initiative with the aim of reducing the presence of litter in the catchment of the Meuse river through international cooperation. This project unites governments, water managers, and scientists from Germany, Belgium, and the Netherlands to jointly tackle the litter pollution. This is done on three fronts: 1) creating a shared understanding of the litter pollution problem through cross-border monitoring and data sharing, 2) implementation of measures aimed at reducing litter, and 3) creating institutional arrangements to anchor these changes in future policy.

⁹ For example, plastic production increased from 2 to 381 million tons worldwide per year over this period of time, Geyer et al., 2017

¹⁰ Stored for example on riverbanks, Meijer et al., 2021

¹¹ van Emmerik & Schwarz, 2020; Deloitte – The price tag of plastic pollution

1.4 Structure of the LIVES project

The LIVES project follows a layer-based approach, whereby the first two layers comprises six different work packages, namely: Management (WP M), Communication (WP C), Inventory Data Sharing (WP T1), Implementation of Measures (WP T2), Institutional Arrangements (WP T3) and First Level Control (WP T4). This report is part of WP T1. WP T1 consists of five building blocks which each block having their own deliverables. This report focuses on the 'Open Access Data System'. The main objective is to give insight what needs to be done with regard to making and keeping an Open Access Data System for litter in the Meuse operational. It is important to mention that the 'Open Access Data System' has an overlap with 'cross border dataset' and the report 'Monitoring of plastics in the Meuse'.¹² It is therefore recommended to assess all these reports jointly.

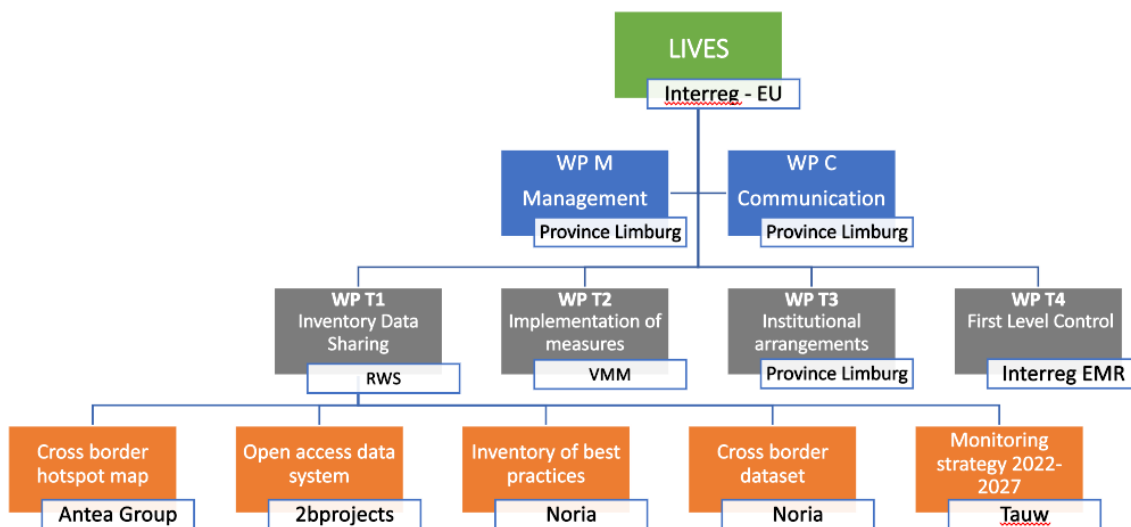


FIGURE 1: STRUCTURE OF THE LIVES PROJECT.

1.5 Reading guide

The first chapter is divided into several paragraphs about the LIVES Open Access Data System. It explains what the usefulness and necessity is and then describes the current situation. The transition phase is described afterwards. The next chapter describes the conclusions and recommendations.

¹² 2bprojects B.V. (2021, December). Monitoring of plastics in the Meuse.

2 LIVES Open Access Data System

In work package 1 of the LIVES project, one of the goals is to be able to monitor litter in the Meuse river basin for the Euregio Meuse-Rhine by means of the inventory and sharing of data. The sharing of data and information about litter between parties within this Euregio, but also possibly also beyond, ensures that there is a cross-border insight into the litter problem. As a result, more information can be used to work on a more efficient and targeted approach to map and mitigate the litter problem.

2.1 Usefulness and necessity

An Open Access Data System contributes to this, because an open platform is created in which the LIVES-partners can share and consult information about litter in the Meuse basin data. The Open Access Data System aims to bring together data that is publicly accessible (open data) from the partners of LIVES in one place. Information and data are presented visually on a map. It is visible from which organization information comes and how this information is created.

Bringing this open information together contributes to cross-border insight into the litter problem in the Meuse. In addition to sharing results, it also becomes possible to learn from each other's techniques and strategies. As a result, the threshold for cross-border cooperation on litter in the Meuse is significantly lowered.

2.2 Current situation

Through interviews, an inventory was made of where LIVES partners now stand in regard to the monitoring of litter and how they view the use of LOADS. Below are some quotes from the interviews:

"Our projects related to littering are all currently in a conceptual phase"
- Policy officer involved in LIVES

"The questions asked are very technical, I don't know if I can answer them."
- Policy officer involved in LIVES

"We do not currently have an established policy on littering"
- Policy officer involved in LIVES

This shows that steps still need to be taken to achieve the objective set out in section 2.1. By comparing answers from the interviews with the 'maturity matrix'¹³, it can be concluded that the maturity level¹⁴ with regard to an Open Access Data System is generally low between the parties and varies greatly. Some organizations are further ahead in the use of data systems and have already implemented many information processes in their organization. There is awareness about how to handle data. Other organizations still have to take steps in this direction. This research provides insight and therefore awareness and is the first step to increase the maturity level among the partners.

Monitoring litter in the Meuse requires data that can be compared with each other. This is because the Meuse is a cross-border river and therefore data must also be able to be compared cross-border. Data is currently generated by different parties with different methodologies. Differences in the process of how data is created and differences in how data is recorded ensures that data cannot be compared. This can be a problem if these processes are not well described and there is no generic basis. The uniformity of data and the underlying processes ensure that there is a generic basis that can be compared.

¹³ A maturity matrix is a kind of table in which the maturity level can be interpreted.

¹⁴ The 'maturity level' is a level that indicates to what extent an organization has secured knowledge, awareness and integration of a certain subject in its organization and how it deals with it. This report is about the maturity of a vision and use for an Open Access Data System and the associated processes.

2.3 Transition phase

The ultimate goal of the Open Access Data System is to bring together data that is publicly accessible (open data) from the partners of LIVES on one digitally accessible database. Information and data are presented visually on a map. It is visible from which organization information comes and how this information is created. The system makes it possible for everyone (partners of LIVES and citizens) to consult the information. The policy describes the degree of use for the partners as well as the public.

2.3.1 Policy

The Open Access Data System will be used by multiple parties. The users work with the help of and from a common system towards a common goal. In this collaboration, we work as one 'organization'.¹⁵

An example of this is a partnership. A partnership is a legal form in which 2 or more partners (the partners) jointly and under 1 name run a business. A partner runs his own business within the partnership and is responsible for this himself. This report focuses in particular on the association of partners who jointly undertake the use of the Open Access Data System.

To build an Open Access Data System that supports the process of mapping litter, overarching data policies are needed. Data policy is about the systematic way of handling all matters that have to do with data. This data policy is necessary because it records all agreements and working structures regarding data within the organization. This policy does not say anything about how projects should be carried out in terms of content, but about the way in which data is handled.

For example, a project can be about monitoring litter in the water column of a river. Another project can be about the capture of litter using a litter traps. The data policy only describes how data is handled in these projects.

A data policy should at least describe¹⁶:

- Process ownership;
- Roles, tasks and responsibilities;
- Collection and processing protocols;
- Delivery specifications;
- Data specifications;
- Standardization;
- Acceptance criteria;
- Quality criteria.

The Proof of Concept¹⁷ that has been delivered in this assignment provides insight and therefore awareness. It is the first step towards raising the maturity level among LIVES partners. The data policy strengthens the growth in maturity level and lays the foundation for a fully functioning Open Access Data System. With the Open Access Data System, it is possible to work on a cross-border insight into the litter problem within the Euregio Meuse-Rhine. Data from all LIVES partners can be shared, compared and combined in one environment. The cross-border insight makes it possible to make analyses that extend beyond your own country.

¹⁵ In this report, the 'organization' is about the organized structure surrounding the use and management of the Open Access Data System and the joint cooperation on litter issues. This organization is not one entity, but a structure in which different organizations and parties function.

¹⁶ The meaning of the listed components of the data policy are explained in the glossary of this report.

¹⁷ A Proof of Concept (PoC) is a method to determine the practical feasibility of a concept, theory, technology, idea or functionality. A PoC is applied in the initial stages of product development, the method is used to assess whether the idea can be realized. It is a 'try and test' method. In fact, an assumption is tested to find out whether the concept or idea is feasible.

2.3.2 Context

The actions and activities required for the Open Access Data System to function are set out on the basis of the 4 pillars of information management. People, Systems, Processes and Resources.

The 'people' pillar covers all aspects of people and stakeholders in the organization. These persons (internal or external) directly influence the functioning of the organization¹⁸.

The 'processes' pillar is about all processes and procedures that are involved in an organization.

In the 'systems' pillar, it is about which systems or system types are used in the organization to 'store' the data of the various information.

A goal-oriented organization allocates resources to be able to develop and maintain the organization. The pillar 'resources' is defined in particular in financial resources and knowledge for data management, but can also be about supporting tools.

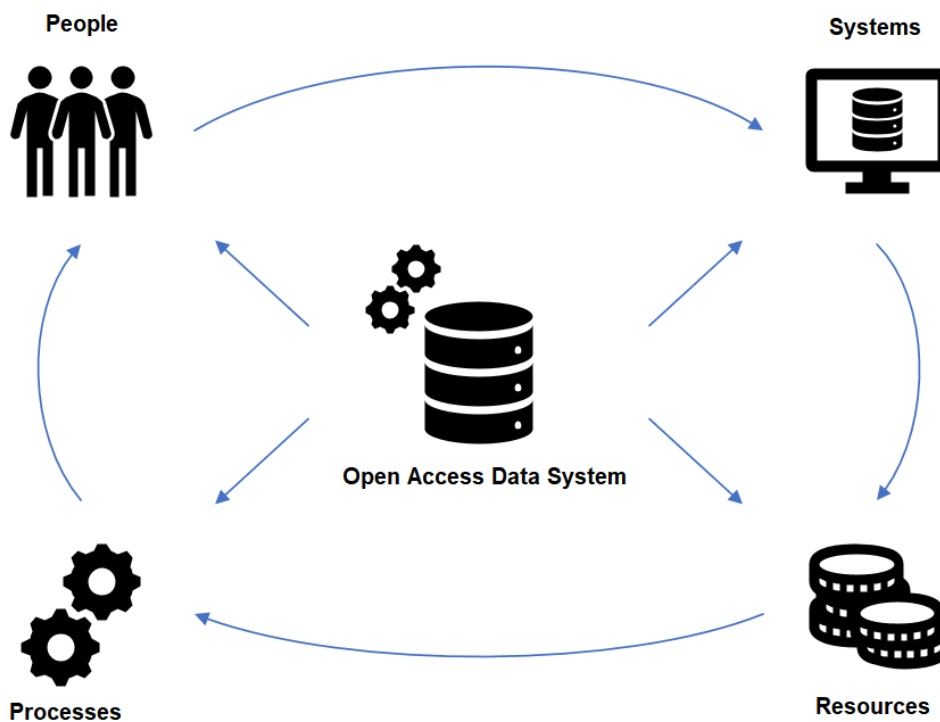


FIGURE 1: STRUCTURE AND COHERENCE OF PILLARS WITH REGARD TO THE OPEN ACCESS DATA SYSTEM.

¹⁸ In this report, the 'organization' is about the organized structure surrounding the use and management of the Open Access Data System and the joint cooperation on litter issues. This organization is not one entity, but a structure in which different organizations and parties function.

2.3.3 People

Various organizations are active in the organized structure of the Open Access Data System and the joint cooperation on litter problems. These are the partners of LIVES for this project and they function as one organization in this. The table below shows the partners.

Partner	Land
Provincie Limburg	NETHERLANDS
Waterschap Limburg	NETHERLANDS
Rijkswaterstaat	NETHERLANDS
Vlaamse Milieumaatschappij	BELGIUM
Openbare Vlaamse afvalstoffenmaatschappij	BELGIUM
De Vlaamse Waterweg NV	BELGIUM
Wasserverband Eifel-Rür	GERMANY
Zuyd Hogeschool	NETHERLANDS
Open Universiteit	NETHERLANDS
RWTH Aachen	GERMANY

TABLE 1: PARTNERS LIVES.

2.3.4 Processes

The process describes the steps from defining the information demand to processing and managing data in LOADS. In this process, it is important that the dataset to be processed is representative. The definition of a representative dataset has been investigated in another study¹⁹. The data policy must safeguard the agreements that lead to a representative dataset. This research also describes an approach to how data can be centrally positioned in the process below. By following this process and the data policy, a representative dataset can be built up in every project about litter. The data and information is shareable and interpretable, allowing it to be compared in the Open Access Data System and combined with datasets that are also representative.

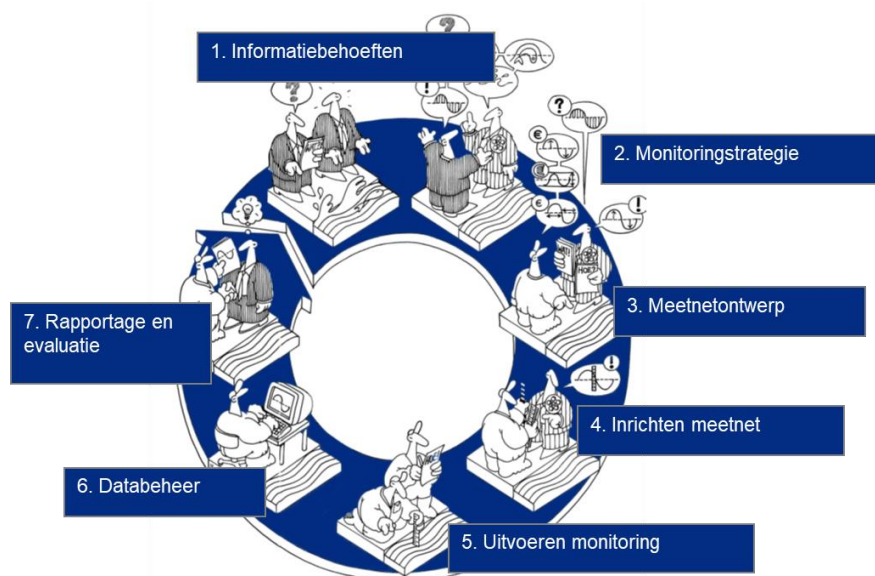


FIGURE 2: THE PROCESS FROM THE DEFINITION OF THE INFORMATION DEMAND TO THE PROCESSING AND MANAGEMENT OF DATA.

¹⁹ 2bprojects B.V. (2021, December). Monitoring of plastics in the Meuse.

2.3.5 Systems

Setting up a system without an overarching policy is normally not the conventional route, but it can give direction in this situation. The Proof of Concept (PoC) provides insights into the technical possibilities of a data and information management system. In addition, the Proof of Concept provides insight into the necessary actions to set up such a system technically. By giving the system a modular and scalable design, the system can develop along with the data policy and the objective of LIVES.

Based on input from the interviews and expertise, the Proof of Concept was set up.

"The system must be able to visually show data and information on a map."
- Policy officer involved in LIVES

The Proof of Concept of LOADS is a cloud solution. A cloud solution is a service that is made available to users via the Internet. In this environment it is possible to view collected data from some partners via a map.

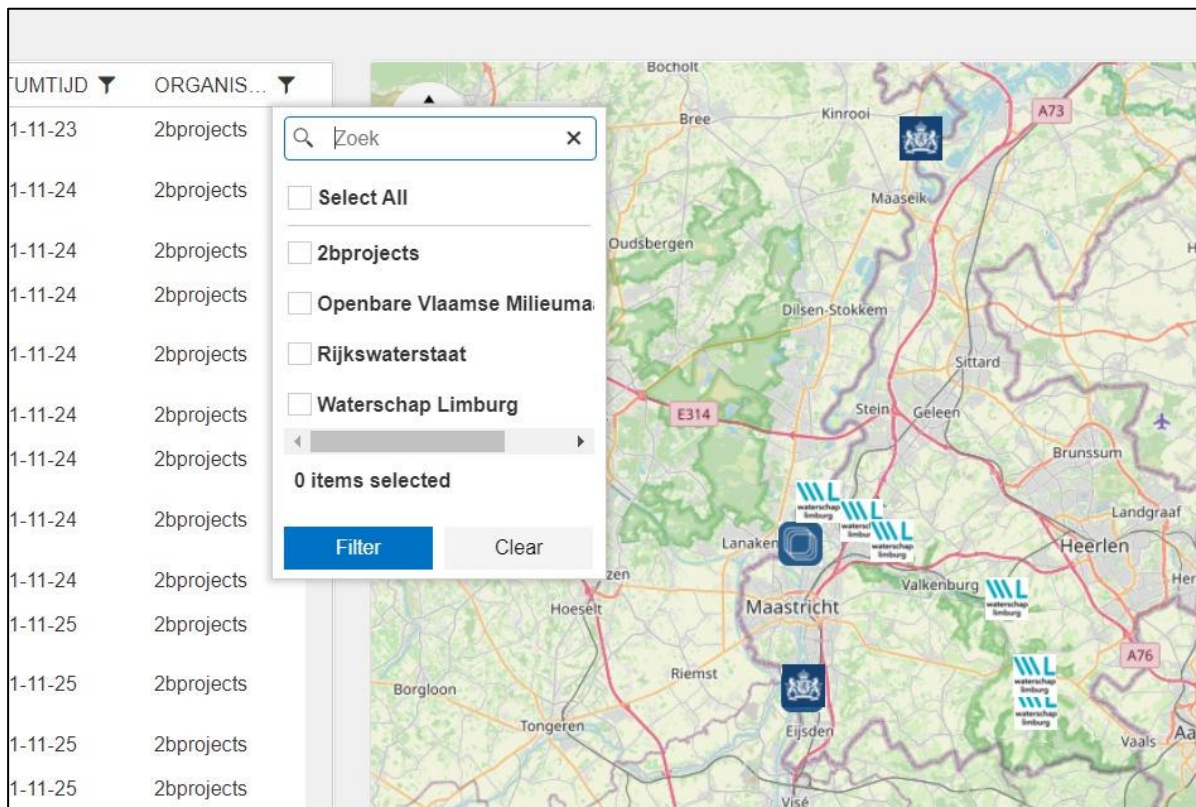


FIGURE 3: SCREENSHOT OF LOADS.

The figure above shows a map with research locations of various partners of LIVES. By means of the filter function it is possible to filter information per partner. In the left column there are options to project and filter the data by content (view-function).

The Proof of Concept is a starting point for the further design of the Open Access Data System. By experiencing the possibilities of an Open Access Data System in a Proof of Concept, thinking about requirements and wishes is triggered.

2.3.6 Resources

Making and keeping the system operational results in costs. These costs must be covered. The LIVES partners should determine how these costs are covered.

3 Conclusion

This report investigated what needs to be done with regard to making and keeping an Open Access Data System operational. In the preparation of the LIVES Open Access Datasystem, interviews were held with the partners to investigate what the wishes are with regard to an Open Access Data System. The interviews have shown that the overall maturity level is generally low and varies by party. As a result, it is not possible to describe a concrete desired situation.

Based on the objective of LIVES, a transition has been described that must realize this objective in which the Open Access Data System can function. With this transition, it will be possible to bring together data that is publicly accessible (open data) from the partners of LIVES in one place.

Bringing this open information together contributes to cross-border insight into the problem of littering. In addition to sharing results, it also becomes possible to learn from each other's techniques and strategies. As a result, the threshold to cross-border cooperation is significantly lowered.

3.1 Recommendations

This document recommends which steps and/or actions should be taken to give substance to the described transition to an Open Access Data System.

3.1.1 Policy

- Place ownership of the process with the leading partner of LIVES (province of Limburg);
- Form a working group 'data policy' with a composition of all partners of LIVES and experts and place the direction²⁰ of the working group with the leading partner of LIVES (province of Limburg);
- Use/combine existing data policies of one or more LIVES partners and make them specific to the objectives of LIVES with the points from section 2.4;
- Create commitment by having this policy document adopted by the partners of LIVES;
- Let an independent and expert market party direct²¹ the Open Access Data System on behalf of all lives partners;
 - The market party has to be independent form the LIVES-partner to ensure there is a level playing field without political interests.²²

3.1.2 People

- The partners of LIVES who work together on the common goal of monitoring litter in the Meuse cross-border with a joint data system must work together in this form as one organization²³.

3.1.3 Processes

- Use the report on the monitoring of litter in the Meuse as a starting point to make agreements for generating a representative dataset;
- Use the approach from the report on the monitoring of litter in the Meuse as a starting point to position data centrally in a project about litter.

²⁰ Directing means coordinating, guiding and managing the tasks for the steering committee.

²¹ Directing means coordinating and guiding tasks with regard to LOADS and being in charge of the context of data quality.

²² Buil, Q. (2019, September). Informatieplatform voor LIVES. 2bprojects B.V.

²³ In this report, the 'organization' is about the organized structure surrounding the use and management of the Open Access Data System and the joint cooperation on litter issues. This organization is not one entity, but a structure in which different organizations and parties function.

3.1.4 Systems

- Use the Proof of Concept to further develop requirements, wishes and needs with regard to an Open Access Data System;
- Use the Proof of Concept to grow in maturity with regard to working with data (quality) and a (full-fledged) Open Access Data System.

3.1.5 Resources

- Request for reserving capacity and costs per partner for the benefit of the working group;
- In the current phase, due to the lack of policy, it is not possible to give a concrete cost indication of making and keeping LOADS operational as an end product. The Proof of Concept can be used next year as a talking board and test environment for the development of LOADS. To use the Proof of Concept in this form, it is advised to reserve € 50.000,- for 2022. These costs relate to: licenses, maintenance and minor programming work.



2bprojects B.V.
Dorpstraat 30
6227 BN, Maastricht

Tel: 0031 (0)43 - 205 73 14
E-mail: info@2bprojects.nl
Website: www.2bprojects.nl