

LIMAPS v1.3.0

Legal Interoperability Maturity Assessment of a Public Service

User guide



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Table of Abbreviations

Acronym	Description
ABB	Architectural Building Block
CAMSS	Common Assessment Method for Standards and Specifications
CarTool	Cartography Tool
DIGIT	Directorate-General for Informatics
EC	European Commission
EIF	European Interoperability Framework
EIRA© (EIRA)	European Interoperability Reference Architecture
ELAP	EIRA Library of Architecture Principles (ELAP)
ELIS	EIRA Library of Interoperability Specifications
EU	European Union
HL SAT	High Level Solution Architecture Template
IMAPS	Interoperability Maturity Assessment of Public Services
ISA	Interoperability Services for Public Administrations
LIMAPS	Legal Interoperability Maturity Assessment of Public Services
MS	Member State
PA	Public Administration
SIQAT	Structural Interoperability Quick Assessment Toolkit

Glossary of terms

Term	Description
Attribute	Structural part of each LIMAPS component. Each attribute includes questions (items) that assess a specific aspect of the digital public service. Each of the LIMAPS survey components has questions (items) that are organised under the following attributes: the legal interoperability specifications of data, information and knowledge delivered by the digital public service to its end users and/or other services, the legal interoperability enablers and the legal interoperability manifestations.
Component	Fundamental structural part of the LIMAPS model that reflects how the respective questions (items) in the questionnaire (survey) are organised. Each component refers to a different pillar of the digital public service lifecycle. LIMAPS has two components: Service Delivery and Service Consumption, which means that the respective questions refer to these two specific categories.
Item	Structural part of each LIMAPS attribute. Items are the questions of the LIMAPS questionnaire (survey)
Option	Options are the possible replies to one LIMAPS item
Principles	Rules applied on digital public service to enable and ensure legal interoperability
(Overall) Weight	Weight refers to the absolute numerical factor that each component/attribute/item contributes into the structural part it belongs. Overall weight refers to the overall numerical factor that each component/attribute/item contributes to the whole LIMAPS survey

EXECUTIVE SUMMARY

This document provides the guidelines and definitions for using the **Legal Interoperability Maturity Assessment of a Public Service (LIMAPS)** tool in order to assess and improve the legal behavioural interoperability maturity of a digital public service. It also includes the questions and the options of the LIMAPS questionnaire as well as the respective recommendations. LIMAPS is the **legal specialisation** of IMAPS survey that assesses the behavioural aspects of a digital public service from the legal interoperability viewpoint.

In the following chapters, we provide an introduction to the most important chapters in the context of LIMAPS and we present the objectives of LIMAPS, the defined maturity levels and the approach and attributes of legal interoperability that are the subject of observation and assessment.

In addition, we present an explanation of the structure of the LIMAPS questionnaire, the methodology used to determine the maturity levels of legal behavioural interoperability of a public service and the questions and options of the questionnaire.

Finally, we conclude with the recommendations that the end-user receives for each question. After filling in the online questionnaire, the respondent receives a PDF with advice on how to improve the technical behavioural interoperability of his digital public service.

1 INTRODUCTION

1.1 Document Objectives

The main objective of the **Legal Interoperability Maturity Assessment of a Public Services (LIMAPS)** is to provide insight into how digital public services can improve their legal behavioural interoperability maturity. LIMAPS is the **legal specialisation** of IMAPS survey that assesses the behavioural aspects of a digital public service from the legal interoperability viewpoint. This document is based on the updates of LIMAPS v1.2.0 to version 1.3.0 by implementing the feedback collected during LIMAPS v1.2.0 deployment and review, as this has been recorded in the respective JIRA tickets as well as suggestions received by the experts. These updates include the description of LIMAPS version 1.3.0, its purpose and scope in relation to IMAPS, as well as its design and deployment on the EU Survey portal. The objectives of the present deliverable are the following:

- the description of the **key concepts** to understand the LIMAPS;
- the presentation of **model objectives**;
- the description of LIMAPS **maturity levels**;
- the description of the LIMAPS **structure** including its **attributes and components**;
- the description of how the LIMAPS **questionnaire** is structured, its questions and their options;
- the description of how the LIMAPS **recommendations** are generated including the recommendations per question.

1.2 Document Structure

The document is organised in the following chapters:

- **Executive summary**, which provides an overview of the deliverable objectives, activities and conclusions;
- **Chapter 1**: Serves as introduction to the document;
- **Chapter 2**: Includes the description of the key concepts used in LIMAPS and their link to IMAPS;
- **Chapter 3**: Includes the maturity levels of LIMAPS;
- **Chapter 4**: Presents LIMAPS structure, in components, attributes and items, demonstrating how their design ensures alignment with IMAPS, EIF and EIRA;
- **Chapter 5**: Presents the LIMAPS questionnaire and how it is structured;
- **Chapter 6**: Presents the LIMAPS recommendations and how they are generated.

2 LIMAPS KEY CONCEPTS

The following concepts are key to understand the LIMAPS:

- *Digital public service* – the digital delivery of a public service via channels such as interactive digital collaborations (chat, messaging functionality), mobile application, web portal / website, email and machine-to-machine interface.
- *Interoperability* – the ability of disparate and diverse organisations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organisations, through the business processes they support, by means of the exchange of data between their respective IT systems.
- *Legal Interoperability* - Legal interoperability ensures that organisations operating under different legal frameworks, policies and strategies are able to work together. In the context of EIF, this covers to ensure that legislation is screened by means of 'interoperability checks', to identify any barriers to interoperability.

2.1 Digital public service

The Legal Interoperability Maturity Assessment of Public Services (LIMAPS) assesses the legal behavioural interoperability of a digital public service. The following four design rules apply when defining a digital public service:

1. The digital public service has a **single outcome / public decision**. When multiple service outcomes are recognised, then multiple digital public services will need to be defined and assessed, each one through a separate LIMAPS assessment;
2. The digital public service has a **single service owner** i.e. the public administration responsible for the service. When the ownership of a service is distributed amongst multiple public administrations (e.g. multiple local administrations providing birth certificates), then each service owner needs to conduct a separate assessment for his respective service;
3. The digital public service has a **single primary end user group**. Public services can be delivered towards three of end users: citizens, businesses and other public administrations. In case the same digital public service is delivered to different types of end users, then these services should be assessed separately from one another through the LIMAPS;
4. The digital public service has a **virtual end user interface**. LIMAPS at the outset has been designed to evaluate services, which are delivered to end users. This is a corollary to the previous design rule.

Examples of digital public services that conform to the aforementioned design rules are the following:

- A national legal act introduces new provisions for the payment of allowances for participation and the cost of transport that allows citizens and businesses (3) to benefit from automated case handling and rapid decisions (1);
- A national eGovernment portal (4) delivers data under legally binding requirements at a national/cross-border level (1) to other public administrations (3);
- Citizens (3) are offered the national electronic service of citizens' identities (eID) (1) via the eID portal (4) provided by the Ministry of Interior (2).

2.2 Interoperability and IMAPS

Interoperability in a digital public service is an attribution defined as "the extent it enables peer-to-peer collaboration with public services towards mutually beneficial goals, involving the sharing of data, information and knowledge between them regardless their legal, organisational, semantic and technical environment". Figure 2 illustrates the digital public service in the context of interoperability.

Interoperability is of multidimensional nature involving structural interoperability, behavioural interoperability and governance interoperability:

1. The **structural interoperability** is "the extent its structure has been developed reusing and/or sharing components in support of a peer-to-peer collaboration"
2. The **behavioural interoperability** is "the extent its manifested behaviour exchanges data, information or knowledge with its environment in support of a peer-to-peer collaboration"
3. The **governance interoperability** is "the extent its agreed choreography rules support a peer-to-peer collaboration".

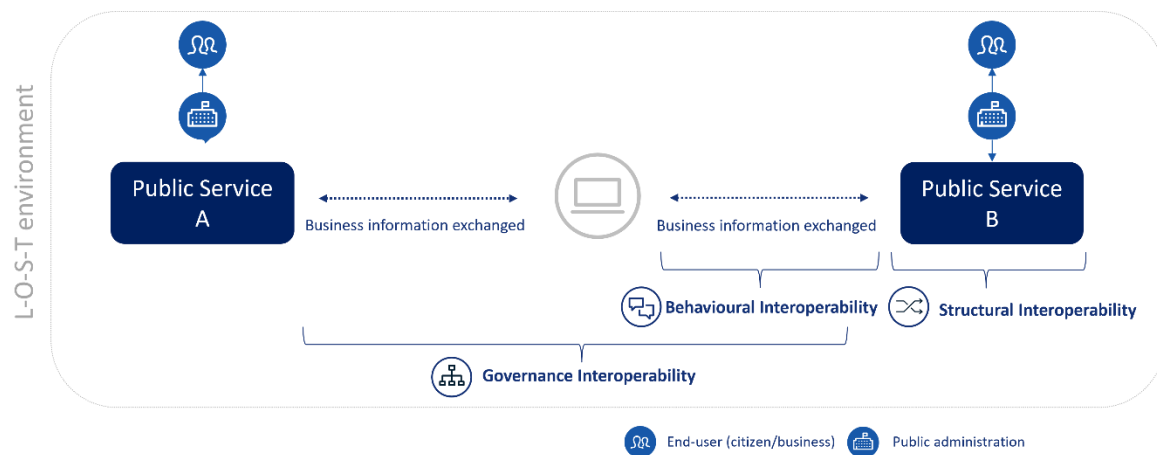


Figure 1: Interoperability dimensions

In addition, all relationships that interconnect the digital public service with the outside environment are considered relevant for assessing interoperability and thus, they are taken into account in the IMAPS. Interoperability and IMAPS are concerned with how the relationship between internal and external domains is defined and implemented.

In particular, IMAPS measures how well a public administration interacts with **external** entities to organise the efficient provisioning of its public services to other public administrations, businesses and citizens. IMAPS uses the term "behavioural" to refer to the fact that it assesses aspects that have to do with how the public services "behave" while interacting with each other or with their end users (citizens, business or other Public Administrations).

2.3 Legal Interoperability and LIMAPS

LIMAPS assesses the behavioural aspects of a digital public service, via an approach similar to this of IMAPS, but from the **legal behavioural interoperability viewpoint**.

Legal interoperability focuses on the legal provisions that regulate the collaboration among different public administrations that operate under different legal mandates, as well as on limitations of data, information and knowledge share and reuse, and also, to legal behavioural interoperability enablers and manifestations that resolve legal incompatibilities and facilitate the interaction of the digital public services with its end users and other client services.

In particular, LIMAPS assesses the behavioural aspects of a digital public service by limiting its focus on:

- the legal behavioural interoperability **specifications** of data, information and knowledge delivered and consumed by the public service and its end-users or other client services;
- the legal behavioural interoperability **capabilities** that **enable** either the delivery and consumption of data, information and knowledge by the digital public service and its end users or other client services or ii) the discoverability of the public service or other client services;
- the legal behavioural interoperability **manifestations** of the public service delivering and consuming data, information and knowledge (manifestations can be performance, results, user experience).

LIMAPS Objectives

LIMAPS delivers insights into two important aspects of legal interoperability maturity:

- Provide insight into the **current legal interoperability maturity** of a digital public service based on a set of defined interoperability attributes and maturity stages;
- Provide guidelines for how the digital public service can **improve its legal interoperability maturity**.

Improving interoperability and in particular, legal interoperability is a continuous activity. Organisations are therefore encouraged to use the model and its improvement recommendations regularly.

2.4 IMAPS and LIMAPS User Journey

The figure below illustrates a **typical user journey** for the IMAPS end user and shows how IMAPS recommendations can trigger the need for an assessment with LIMAPS survey.



Figure 2: IMAPS to LIMAPS user journey

It is briefly mentioned that although LIMAPS can serve as a stand-alone survey that can provide an assessment of a digital public service from a legal behavioural interoperability point of view, the recommended use case is to first perform an assessment with IMAPS, and following its recommendations, then to perform an assessment with LIMAPS.

2.5 LIMAPS Target users

LIMAPS can be used by the following end-users:

- Policy- makers: to make informed refinements in the next policy cycle (evidence-aware policy making);
- Public service owners: to improve the overall legal interoperability and conformance of their digital public services;
- Decision-makers: to make informed decisions for the strategic priorities of each Public Administration and beyond.

3 LIMAPS MATURITY LEVELS

LIMAPS uses a **five-stage model** to indicate the legal interoperability maturity of the digital public service. Using maturity levels allows to:

- Measure the legal interoperability maturity of the digital public service as a whole as well as underlying aspects;
- Indicate which capabilities and next steps are required to reach higher levels, and thus improve legal interoperability maturity.

A five-stage approach is often seen in proven maturity models and is considered best practice for assessing and improving maturity. The five maturity levels for LIMAPS are summarised in the table below.

Table 1: Five maturity levels of LIMAPS

LEVEL 01	AD HOC	Poor Interoperability – the digital public service cannot be considered interoperable
LEVEL 02	OPPORTUNISTIC	Fair Interoperability – the digital public service implements some elements of interoperability best practices
LEVEL 03	ESSENTIAL	Essential Interoperability – the digital public service implements the essential best practices for interoperability
LEVEL 04	SUSTAINABLE	Good Interoperability – all relevant interoperability best practices are implemented by the digital public service
LEVEL 05	SEAMLESS	Interoperability Leading Practice – the digital public service is a leading interoperability practice example for others

The desired interoperability level for a digital public service is at least level 4: “Sustainable”. At this level, the digital public service is considered to have implemented all relevant best practices.

4 LIMAPS STRUCTURE

4.1 Approach

LIMAPS uses the term “behavioural” to refer to the fact that it assesses aspects that have to do with how the public services “behave” while interacting with each other or with their end users (citizens, business or other Public Administrations). **LIMAPS** assesses the behavioural aspects of a digital public service, via an approach similar to this of IMAPS, but from the **legal behavioural interoperability viewpoint**.

LIMAPS conceptual model describes all possible instances where **interoperability with the outside world may occur from the digital public service viewpoint**. It distinguishes between the **internal domain** (the internal service management) and the **external domain** (the digital public service uses/consumes existing services and exposes the produced service to thirds).

4.2 LIMAPS Components

Component	Fundamental structural part of the LIMAPS model that reflects how the respective questions (items) in the questionnaire (survey) are organised. Each component refers to a different pillar of the digital public service lifecycle. LIMAPS has two components: Service Delivery and Service Consumption, which means that the respective questions refer to these two specific categories.
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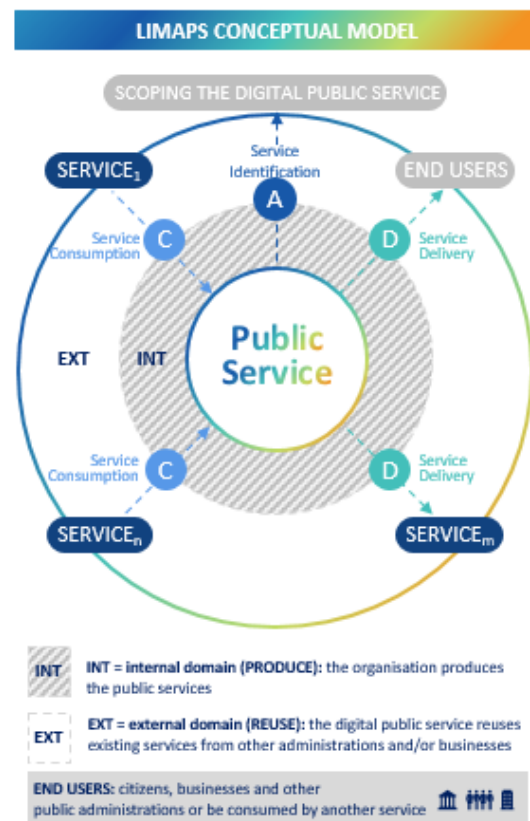


Figure 3: LIMAPS behavioural interoperability viewpoint

The **LIMAPS structural components** are described below:

- **Service Consumption (C)** – Consumption of reusable machine-to-machine services from other public administrations and businesses. This can include the consumption of functionalities, base registry information and security services;
- **Service Delivery (D)** – Delivery of the digital public service to its end users and/or other public administrations

The components indicated in the figure above are the object of measurement in LIMAPS, specifying where legal behavioural interoperability plays a role from a service delivery and a service consumption viewpoint.

4.2.1 Service Delivery (D)

The public administration delivers the digital public service towards end users i.e. citizens, businesses or other administrations. We call this **Service Delivery**. The service that is being delivered represents the focal point of the LIMAPS in terms of correctly scoping and delimiting the digital public service under evaluation. If service delivery is scoped correctly, the scoping of the other areas becomes more straightforward. The Service Delivery area focuses on the delivery of the digital public service to its end users or other services.

4.2.2 Service Consumption (C)

For delivering the digital public service towards the end user, the digital public service may be required to consume services of other public administrations or businesses. This area is called **Service Consumption** and it focuses on the consumption of reusable machine-to-machine (client) services from other public administrations and businesses. This can, indicatively, include the consumption of functionalities, base registry information and security services.

Digital public services that consume (reuse) existing services where possible are considered more interoperable than organisations that produce (develop) their own proprietary services without reusing existing functionalities.

4.3 LIMAPS Attributes

Attribute	Structural part of each LIMAPS component. Each attribute includes questions (items) that assess a specific aspect of the digital public service. Each of the LIMAPS survey components has questions (items) that are organised under the following attributes: the legal interoperability specifications of data, information and knowledge delivered by the digital public service to its end users and/or other services, the legal interoperability enablers and the legal interoperability manifestations.
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It is reminded, as per the glossary in the introduction of this document, that LIMAPS questionnaire is structured into two components: Service Delivery and Service consumption. The attributes that compose these LIMAPS components, are presented in the table below.

Table 2: Service delivery and service consumption attributes

Service Delivery	
Attribute	Rationale
Data, information and knowledge Delivered	Assesses the legal behavioural interoperability specifications of [data, information and knowledge delivered by the public service to its end users and/or other client services.
Service Delivery Enablers	Assesses the legal behavioural interoperability capabilities that enable either i) the delivery of data, information and knowledge by the digital public service to its end users and/or other client services or ii) the discoverability of the public service.
Service Delivery Manifestations	Assesses the legal behavioural interoperability manifestations of the public service delivering data, information and knowledge (manifestations can be performance, results, user experience).
Service Consumption	
Attribute	Rationale
Data, information and knowledge Consumed	Assesses the legal behavioural interoperability specifications of data, information and knowledge consumed by the public service from other server services
Service Consumption Enablers	Assesses the legal behavioural interoperability capabilities that enable the public service to either i) discover other server services and/or ii) consume their data, information and knowledge
Service Consumption Manifestations	Assesses the legal behavioural interoperability manifestations of the public service consuming data, information and knowledge (manifestations can be performance, results, user experience).

It is briefly noted that there is a symmetry in the way the Service Delivery and Service Consumption attributes have been defined, from the delivery viewpoint to the consumption viewpoint. This means that there is no attribute in Service Delivery that is not also examined in the Service Consumption component from the service consumption viewpoint and vice versa.

4.4 Sources of Input

Various related programmes and initiatives inside and outside Interoperable Europe have been leveraged to build the current set of LIMAPS Attributes. The most important ones are:

- **European Interoperability Framework (EIF)¹** – The European Interoperability Framework (EIF) serves as an important framework for organisations to promote and improve interoperability and therefore is considered as a paramount starting point for defining LIMAPS attributes. The respective items per attribute have been specifically formed to assess the level of conformance with the elements of EIF structure (principles/layers/conceptual model). The basis to define LIMAPS items have been the EIF recommendations;

¹ <https://web.archive.org/web/20220301180315/https://ec.europa.eu/isa2/eif>

- **European Interoperability Reference Architecture (EIRA)²** – EIRA compliance is ensured at the level of LIMAPS attributes. In this context, the respective items per attribute have been specifically formed to assess the level of conformance with the EIRA Architecture Building Blocks (ABBs). The basis to define LIMAPS items has been the context of each one of the EIRA ABBs.
- **Digital Single Market** - the Digital Single Market strategy aimed to open up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy. Selected attributes were defined to align with this ambition; the terminology of LIMAPS overall embraces the key concepts of “digitalisation” in its various aspects;
- **Structural Interoperability Quick Assessment Toolkit (SIQAT®)³** – SIQAT® has been developed in the context of Action 2016.36 Assessment of trans-European systems supporting EU policies of the Interoperability solutions and common frameworks for European public administrations, businesses and citizens. The objective of the SIQAT® is to allow public service owners to evaluate the structural interoperability maturity level of their digital public service.
- **Legal interoperability experts** – The IMAPS project team conducted some rounds of interviews with identified experts from the legal interoperability domain to improve and adapt the LIMAPS questionnaire.
- **A multi-dimensional framework to evaluate the innovation potential of digital public services⁴** – This report presents the main findings of a study conducted as part of the “Innovative Public Services” (IPS) Action of the Interoperable Europe Programme. The main outcome of the research is an original multi-dimensional framework for evaluating the interoperability readiness of digital public services. The framework was conceptualised and tested in the context of desk and field research on available evidence to support European Public Administrations willing to embrace new digital technologies and deliver innovative public services according to the four layers of the European Interoperability Framework (EIF) and in alignment with the user centricity principles defined in the Tallinn Declaration (2017).
- **Common Assessment Method for Standards and Specifications (CAMSS)⁵** - CAMSS is the European guide for assessing and selecting standards and specifications for an eGovernment project, a reference when building an architecture and an enabler for justifying the choice of standards and specifications in terms of interoperability needs and requirements. It is fully aligned with the European Standardisation Regulation 1025/2012.
- **EIRA Library of Interoperability Specifications (ELIS)⁶** - The EIRA Library of Interoperability Specifications is a library containing the standards and specifications defining the interoperability requirements of the architectural building blocks (ABBs) contained in the European Interoperability Reference Architecture (EIRA). The aim of this library is supporting solutions architects when modelling using EIRA.

² <https://joinup.ec.europa.eu/collection/european-interoperability-reference-architecture-eira/solution/eira>

³ <https://joinup.ec.europa.eu/collection/interoperability-maturity-tools-imts-digital-public-services/solution/siqat>

⁴ <https://publications.jrc.ec.europa.eu/repository/handle/JRC121672>

⁵ <https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/about>

⁶ <https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elis/release/600>

- ***EIRA Library of Architecture Principles (ELAP)***⁷ - The EIRA library of architecture principles (ELAP) is intended to direct government organizations in initiating changes and implementing IT projects. Particularly when designing new or modified services, it is necessary to make visible how the principles are implemented and which considerations are made in this regard. The apply-or-explain principle applies here, whereby deviations are permitted provided that they are substantiated and recorded with good arguments so that they can be revisited at a later stage. This prevents important matters from being overlooked. The principles are described in relation to relevant policy frameworks, established standards, building blocks and examples that are already available, so that they are as recognisable as possible in practice.
- In the context of LIMAPS, the CAMSS terminology, ELIS requirements and ELAP principles have been used as basis and guidance to design the items and options of the questionnaire, as well as the respective interoperability aspects, linked to each item. These interoperability aspects serve as the basis to design the High Level Solution Architecture Template (HL SAT) of LIMAPS, a specification that extends EIRA and provides high level requirements on how to design a semantically interoperable digital public service.

⁷ <https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elap/release/200>

5 LIMAPS QUESTIONNAIRE

LIMAPS uses a questionnaire structure for assessing the legal behavioural interoperability maturity of a digital public service. This section details the questionnaire type, question types and assessment structure in more detail.

LIMAPS questionnaire is a compact and highly user-friendly tool available online. Designed as a self-assessment tool, LIMAPS assessment criteria have been condensed into targeted question sets in order to evaluate key legal behavioural interoperability aspects of a digital public service. Such insight results in personalised, confidential feedback and recommendations on how a service can improve.

LIMAPS Questionnaire is designed to take approximately 20 - 30 minutes to complete. Once the questionnaire is completed, a report is generated with the legal behavioural interoperability scores plus recommendations on how to further improve the digital public service's legal behavioural interoperability.

5.1 Questionnaire Structure

This section outlines the structure of the questionnaire. The **four main sections** of the questionnaire are in line with the earlier presented overview of behavioural interoperability aspects ([section 4](#)):

- **Service Identification (A):** This section assesses the scope of the digital public service (the object of measurement, i.e. the digital public service to examine), service landscaping, the digital public service's outcome, the service owner, the administrative level, etc.;
- **Service Delivery (D):** The section assesses how the digital public service delivers its service;
- **Service Consumption (C):** This section assesses if and how services are consumed from other administrations and businesses.

The following figures illustrate the sections A, D and C of LIMAPS questionnaire as described above.

A1A. Please provide your name:

A1B. Please provide your email address:

A1C. Please provide your phone number:

* A1D. Please indicate the country of the organisation providing the service

A1E. Please provide your role in the organisation providing the service:

Figure 4: LIMAPS questionnaire Section A

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* A2A. A digital public service is a digital service rendered in the public interest.

What is the name of the service that you provide to the end users (citizens, businesses or other public administrations)?

A2B. Please provide the public service catalogue name and URI, if it is applicable for the digital public service.

* A2C. Please give a brief description of the service.

More Info ⓘ

A2D. Appearance: How does the service deliver the outcome towards the end user group?

- ☐ The service delivers the outcome towards the end users via traditional channels e.g. phone, postal service
- ☐ The service delivers the outcome towards the end users via digital channels, e.g. through a web portal/website or an application
- ☐ The service delivers the outcome towards other IT systems (machine-to-machine interface)

* A2E. Please specify the official email address of the contact point for the provided service:

Figure 5: LIMAPS questionnaire Section A

↑ A3A. Service provider: Which public administration tier is primarily responsible for providing the service?

- ☐ International Public Administration
- ☐ Central Public Administration
- ☐ Regional Public Administration
- ☐ Local Public Administration
- ☐ Other Legal Entity



↑ In case of "Other Legal Entity", please indicate in the text field below.

↑ A3B. Are the solutions provided by a Directorate-General of the European Commission?

- ☐ Yes
- ☐ No



↑ A3C. Please indicate the Directorate-General of the European Commission:

Figure 6 LIMAPS questionnaire Section A

A4. Please indicate in which sector is the service provided.

- ☐ Education
- ☐ Public Health
- ☐ Public Safety
- ☐ Environmental Protection
- ☐ Justice
- ☐ Transportation
- ☐ Infrastructure
- ☐ Social Services
- ☐ Economy/Financial
- ☐ Other



↑ In case of "Other", please indicate in the text field below

A5. What is the end user group to whom the service is delivered?

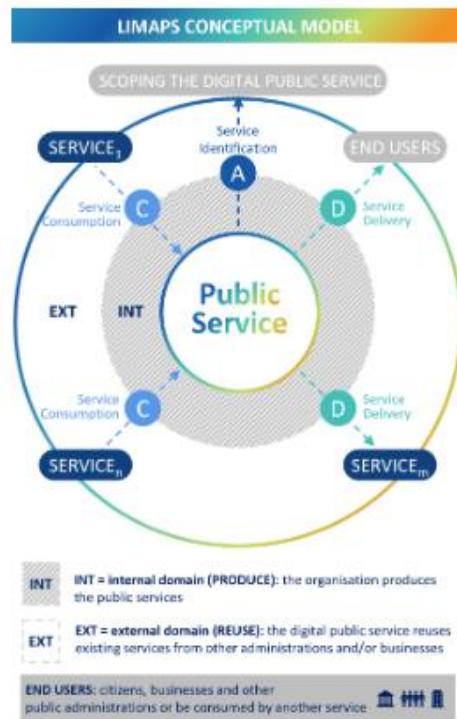
- ☐ Public Administrations (A2A)
- ☐ Citizens (A2C)
- ☐ Businesses (A2B)

A6. At what administrative level is the service provided (multiple answers are possible)?

- ☐ Local (e.g. city, municipality)
- ☐ Regional
- ☐ National
- ☐ European
- ☐ International

Figure 7: LIMAPS questionnaire Section A

Service Delivery (D)



The public administration delivers the digital public service data towards other end users like administrations, businesses and citizens. We call this the **Public Service Delivery**.

The service being delivered represent the focal point of the LIMAPS in terms of correctly scoping and delimiting the digital public service under evaluation.

The Service Delivery area focuses on the data, information and knowledge delivered by the digital public service, the Service Delivery Enablers and the Service Delivery Manifestations.

Please answer the following questions regarding how your digital public service is delivered to end users and/or other public services.

Figure 8: LIMAPS questionnaire Section D

Data, information and knowledge delivered

**Assesses the legal behavioural interoperability specifications of data, information and knowledge delivered by the digital public service to its end users and/or other client services.*

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* D1. To what extent is the service compliant with the legal obligations that define the specifications of the data, information and knowledge delivered to its end users?

Enabler / Manifestation

More Info ⓘ

- ☐ The service is **not compliant** with any of the existing legal obligations that affect the delivery of data, information and knowledge
- ☐ The service is **compliant** with the existing **legal obligations** that affect the delivery of data, provider agnostic data processing, information and knowledge, **at a local level**
- ☐ The service is **compliant** with the existing **legal obligations** that affect the delivery of data, provider agnostic data processing, information and knowledge, **at a regional level**
- ☐ The service is **compliant** with the existing **legal obligations** that affect the delivery of data, provider agnostic data processing, information and knowledge, **at a national level**
- ☐ The service is **compliant** with the existing **legal obligations** that affect the delivery of data, provider agnostic data processing, information and knowledge, **at EU level** (e.g. to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.)
- ☐ **Not applicable or not necessary** (because e.g. there are no legal obligations that affect the delivery of data, information and knowledge)
- ☐ **No answer**

* D2. To what extent does the service refer to the legal basis on the specifications of the data, information and knowledge delivered to its end users?

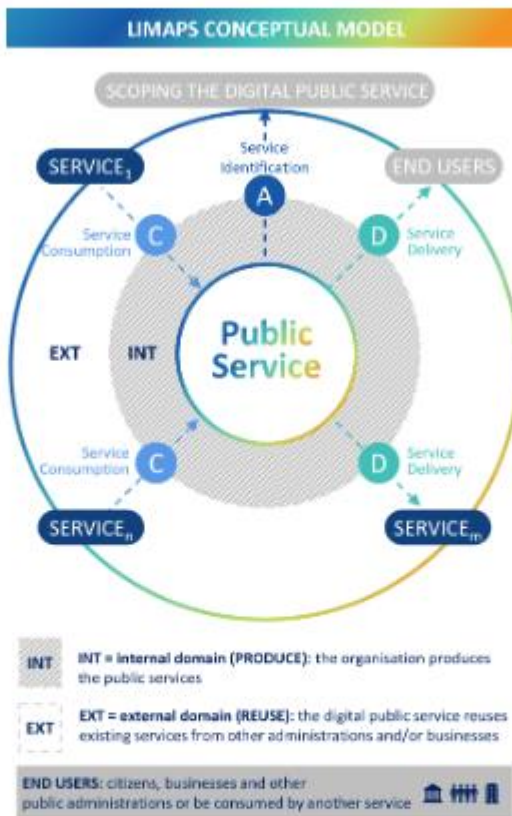
Enabler / Manifestation

More Info ⓘ

- ☐ The service **does not refer to the legal basis** on the data, information and knowledge it delivers, although there are legal barriers that impact their delivery that have to be legally resolved (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).
- ☐ The service provides **custom rules** to define the specifications for the delivery of data, information and knowledge, but there are **legal barriers** that impact the delivery of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).
- ☐ The service provides **formal rules** to define the specifications for the delivery of a **limited** amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR)
- ☐ The service provides **formal rules** to define the specifications for the delivery of **most** data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR)
- ☐ The service provides **formal rules** to define the specifications for the delivery of **any** data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR).

Figure 9: LIMAPS questionnaire Section D

Service Consumption (C)



For delivering the digital public service data towards other administrations, businesses and citizens, the digital public service may be required to consume service of other public administrations or businesses. This area is called **Service Consumption**.

The Service Consumption area focuses on the data, information and knowledge consumed, the Service Consumption Enablers and the Service Consumption Manifestations.

Please answer the following questions regarding the service consumption of your service, if applicable.

Figure 10: LIMAPS questionnaire Section C

LIMAPS version 1.3.0 user guide

↑ * C1. To what extent is the service compliant with the legal obligations that define the specifications of the data, information and knowledge consumed from other services?

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More Info ?

- ☐ The service is **not compliant** with any of the existing legal obligations that affect the consumption of data, information and knowledge
- ☐ The service is **compliant** with the existing legal obligations that affect the consumption of data, information and knowledge, **at a local level**
- ☐ The service is **compliant** with the existing legal obligations that affect the consumption of data, information and knowledge, **at a regional level**
- ☐ The service is **compliant** with the existing legal obligations that affect the consumption of data, information and knowledge, **at a national level**
- ☐ The service is **compliant** with the existing legal obligations that affect the consumption of data, information and knowledge, **at EU level** (e.g. to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.)
- ☐ **Not applicable or not necessary** (because e.g. there are no legal obligations that affect the consumption of data, information and knowledge)
- ☐ **No answer**

↑ * C2. To what extent does the service refer to the legal basis on the specifications of the data, information and knowledge consumed by other services?

Enabler / Manifestation

More Info ?

- ☐ The service **does not refer** to the legal basis on the data, information and knowledge it consumes, although there are **legal barriers** that impact the consumption that have to be legally resolved (e.g. in the case of personal/critical data, information and knowledge that have to be consumed)
- ☐ The service provides **custom rules** to define the specifications for the consumption of data, information and knowledge, but there are **legal barriers** that impact the consumption of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).
- ☐ The service provides **formal rules** to define the specifications for the consumption of a **limited** amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR)
- ☐ The service provides **formal rules** to define the specifications for the consumption of **most** data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR)
- ☐ The service provides **formal rules** to define the specifications for the consumption of **any** data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR)
- ☐ **Not applicable or not necessary** (because e.g. there are no legal barriers to impact the consumption of data, information and knowledge and thus, no need to be legally resolved)
- ☐ **No answer**

Figure 11: LIMAPS questionnaire Section C

5.2 LIMAPS Questionnaire

5.2.1 Service Identification (A) - Questions

A1A.

<i>Name</i>	Contact details
<i>Question type</i>	Free text
<i>Rationale</i>	Gather contact information for eventual follow-up.
<i>Question</i>	Please provide your name.
<i>Question logic</i>	Next question

A1B.

<i>Name</i>	Contact details
<i>Question type</i>	Email - format check on email

<i>Rationale</i>	Gather contact information for eventual follow-up.
<i>Question</i>	Please provide your email address.
<i>Question logic</i>	Next question

A1C.

<i>Name</i>	Contact details
<i>Question type</i>	Free text - format check on phone number
<i>Rationale</i>	Gather contact information for eventual follow-up.
<i>Question</i>	Please provide your phone number.
<i>Question logic</i>	Next question

A1D.

<i>Name</i>	Contact details
<i>Question type</i>	Single choice (1 answer possible)
<i>Rationale</i>	Gather contact information for eventual follow-up.
<i>Question</i>	Please indicate the country of the organisation providing the service. Please indicate the country if not in the list above.
<i>Question logic</i>	Next question

A1E.

<i>Name</i>	Contact details
<i>Question type</i>	Free text
<i>Rationale</i>	Gather contact information for eventual follow-up.
<i>Question</i>	Please provide your role in the organisation providing the service
<i>Question logic</i>	Next question

A2A.

<i>Name</i>	Digital public service description
<i>Question type</i>	Free Text
<i>Rationale</i>	Gain insight into the digital public service the administration provides.
<i>Question</i>	A digital public service is a digital service rendered in the public interest. What is the name of the service that you provide to the end users (citizens, businesses or other public administrations)?
<i>Examples</i>	<ul style="list-style-type: none"> • Issue of birth certificate for citizens • Submission of yearly income tax declaration for citizens • Issue of an electronic fee for citizens • Electronic Health Record Access

	<ul style="list-style-type: none"> • Government e-invoicing for businesses • Cross-Border Vehicle Identification Service for public administrations.
<i>Question logic</i>	Next question

A2B.

<i>Name</i>	Digital public service description
<i>Question type</i>	Free Text
<i>Rationale</i>	Gain insight into the digital public service the administration provides.
<i>Question</i>	Please provide the public service catalogue name and URI, if it is applicable for the digital public service.
<i>Question logic</i>	Next question

A2C.

<i>Name</i>	Digital public service description
<i>Question type</i>	Free Text
<i>Rationale</i>	Gain insight into the digital public service the administration provides.
<i>Question</i>	Please give a brief description of the service.
<i>Question logic</i>	Next question

A2D.

<i>Name</i>	Digital public service description
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	Gain insight into the digital public service the administration provides.
<i>Question</i>	<p>Appearance: How does the service deliver the outcome towards the end user group?</p> <ul style="list-style-type: none"> • The service delivers the outcome towards the end users via traditional channels e.g., phone, postal service • The service delivers the outcome towards the end users via digital channels e.g., through a web portal/ website or an application • The service delivers the outcome towards other IT systems (machine-to-machine interface)
<i>Question logic</i>	Next question

A2E.

<i>Name</i>	Digital public service description
<i>Question type</i>	Email - format check on email
<i>Rationale</i>	Gain insight into the digital public service the administration provides.
<i>Question</i>	Please specify the official email address of the contact point for the provided service

<i>Question logic</i>	Next question
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A3A.

<i>Name</i>	Sector of the service
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This question determines the scope / boundaries of the public administration providing the digital public service.
<i>Question</i>	<p>Service provider: Which public administration tier is primarily responsible for providing the service?</p> <ul style="list-style-type: none"> • International Public Administration • Central Public Administration • Regional Public Administration • Local Public Administration • Other Legal Entity. In case of “Other Legal Entity”, please indicate in the text below
<i>Question logic</i>	Next question

A3B.

<i>Name</i>	Sector of the service
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This question determines the scope / boundaries of the public administration providing the digital public service.
<i>Question</i>	<p>Are the solutions provided by a Directorate-General of the European Commission?</p> <ul style="list-style-type: none"> • Yes • No
<i>Question logic</i>	Next question

A3C.

<i>Name</i>	Sector of the service
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This question determines the scope / boundaries of the public administration providing the digital public service.

Question

Please indicate the Directorate-General of the European Commission

- Administration and Payment of Individual Entitlements
- Agriculture and Rural Development
- Budget
- Climate Action
- Communication
- Communications Networks, Content and Technology
- Competition
- Consumers, Health, Agriculture and Food Executive Agency
- Data Protection Officer
- Defence Industry and Space
- Economic and Financial Affairs
- Education, Audiovisual and Culture Executive Agency
- Education, Youth, Sport and Culture
- Employment, Social Affairs and Inclusion
- Energy
- Environment
- European Anti-Fraud Office
- European Civil Protection and Humanitarian Aid Operations
- European Climate, Infrastructure and Environment Executive Agency
- European Neighbourhood and Enlargement Negotiations
- European Personnel Selection Office
- European Research Council Executive Agency
- European School of Administration
- Eurostat - European statistics
- Executive Agency for Small and Medium-sized Enterprises
- Financial Stability, Financial Services and Capital Markets Union
- Foreign Policy Instruments
- Health and Food Safety
- Historical Archives Service
- Human Resources and Security
- Informatics
- Infrastructure and Logistics in Brussels
- Infrastructure and Logistics in Luxembourg
- Inspire, Debate, Engage and Accelerate Action
- Internal Audit Service
- Internal Market, Industry, Entrepreneurship and SMEs
- International Partnerships
- Interpretation
- Joint Research Centre
- Justice and Consumers
- Legal Service
- Library and e-Resources Centre
- Maritime Affairs and Fisheries
- Migration and Home Affairs
- Mobility and Transport

	<ul style="list-style-type: none"> • Publications Office • Regional and Urban Policy • Research Executive Agency • Research and Innovation • Secretariat-General • Structural Reform Support • Task Force for Relations with the United Kingdom • Taxation and Customs Union • Trade • Translation
<i>Question logic</i>	Next question
A4.	
<i>Name</i>	Sector of the service
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This question determines the scope / boundaries of the public administration providing the digital public service.
<i>Question</i>	<p>Please indicate in which sector is the service provided.</p> <ul style="list-style-type: none"> • Education • Public Health • Public Safety • Environmental Protection • Justice • Transportation • Infrastructure • Social Services • Economy/Financial • Other. In case of "Other", please indicate in the text field below.
<i>Question logic</i>	Next question
A5.	
<i>Name</i>	End user group(s) to which the service is delivered
<i>Question type</i>	Multiple choice (>1 possible answer)
<i>Rationale</i>	Determine the end user group(s) to which the service is delivered.
<i>Question</i>	<p>What is the end user group to whom the service is delivered?</p> <ul style="list-style-type: none"> • Public Administrations (A2A) • Citizens (A2C) • Businesses (A2B)
<i>Examples</i>	The public service of a Public Administration may have three types of end users (Administrations, Businesses, Citizens), covering three (3) types of interactions

	with them: Administration to Administration (A2A), Administration to Business (A2B) and Administration to Citizens (A2C).
<i>Question logic</i>	Next question

A6.

<i>Name</i>	Administrative level
<i>Question type</i>	Multiple choice (>1 possible answer)
<i>Rationale</i>	Gain insight into the government providing the digital public service.
<i>Question</i>	At what administrative level is the service provided (multiple answers are possible)? <ul style="list-style-type: none"> • Local (e.g. city, municipality) • Regional • National • European • International
<i>Question logic</i>	Next question

Maturity scoring: This section is not scored.

5.2.2 Service Delivery (D) - Questions

D1.

<i>Name</i>	Legal obligations for the data transmitted
<i>Category</i>	Enabler
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item aims to assess the legal behavioural interoperability specifications of the data, information, knowledge delivered by the digital public service, by determining whether there is any legal basis for the data transmission or whether there are any legal barriers. It examines whether there are custom or formal rules in place regarding the data transmission e.g., GDPR. This item is compliant with the EIRA ABB 'Legal Act' and 'Granularity of Legal Requirements'.
<i>Question</i>	To what extent is the service compliant with the legal obligations that define the specifications of the data, information and knowledge delivered to its end users? <ul style="list-style-type: none"> • The service is not compliant with any of the existing legal obligations that affect the delivery of data, information and knowledge • The service is compliant with the existing legal obligations that affect the delivery of data, provider agnostic data processing, information, and knowledge, at a local level • The service is compliant with the existing legal obligations that affect the delivery of data, provider agnostic data processing, information and knowledge, at a regional level

	<ul style="list-style-type: none"> • The service is compliant with the existing legal obligations that affect the delivery of data, provider agnostic data processing, information and knowledge, at a national level • The service is compliant with the existing legal obligations that affect the delivery of data, provider agnostic data processing, information and knowledge, at EU level (e.g. to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.) • Not applicable or not necessary (because e.g., there are no legal obligations that affect the delivery of data, information and knowledge) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • The use of eDelivery is compliant with the EU Treaties • The delivery of tax service is compliant with national regulations and legal acts • The national electronic public procurement platform is delivered to the end-users against EU directives on public procurement e.g. Directive 2014/24/EU • Portugal and Czech Republic have eID schemes based on the electronic national identity card which are compliant with the eIDAS Regulation
<i>Question logic</i>	Next question

D2.

<i>Name</i>	Legal basis on data transmission
<i>Category</i>	Enabler
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item examines to what extent the digital public service refers to the legal basis on the specifications of the data, information and knowledge delivered to its end users. Such a legal basis aims to resolve any legal barriers that may impact the delivery of data, information and knowledge (e.g. in the case of personal / critical data, information and knowledge). The type of legal basis in place defines the extent of the legal/juridical certainty and determinacy for the delivery of data, information and knowledge. This item examines the legal behavioural interoperability specifications of the data, information and knowledge delivered by the digital public service to its end users. This item is compliant with the EIRA ABB 'Legislation on Data, Information and Knowledge Exchange'.</p>
<i>Question</i>	<p>To what extent does the service refer to the legal basis on the specifications of the data, information and knowledge delivered to its end users?</p> <ul style="list-style-type: none"> • The service does not refer to the legal basis on the data, information and knowledge it delivers, although there are legal barriers that impact their delivery that have to be legally resolved (e.g. in the case of

	<p>personal/critical data, information and knowledge that have to be delivered).</p> <ul style="list-style-type: none"> • The service provides custom rules to define the specifications for the delivery of data, information and knowledge, but there are legal barriers that impact the delivery of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered). • The service provides formal rules to define the specifications for the delivery of a limited amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR) • The service provides formal rules to define the specifications for the delivery of most data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR) • The service provides formal rules to define the specifications for the delivery of any data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR). • Not applicable or not necessary (because e.g. there are no legal barriers to impact the delivery of data, information and knowledge and thus, no need to be legally resolved). • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • A national eGovernment portal delivers data under legally binding requirements at a national level. • A public administration in MS uses the Single Digital Gateway regulation (Regulation (EU) 2018/1724) for delivering data to citizens and businesses • A national eProcurement platform uses the ESPD which allows business to easily tender in different countries (the "legal mandate" is also semantic for the service providers)
<i>Question logic</i>	Next question

D3.

<i>Name</i>	Digital-ready legislation for automated transmission of data
<i>Category</i>	Enabler
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item examines whether there are digital-ready policies and legislations in place that mandate a digital and automated delivery of data, information and knowledge by the digital public service (digital-ready legislation). Such a

	mandate defines the specifications of the data, information and knowledge delivered by the digital public service to its end users, resolving any legal barriers that may impact their automated delivery (e.g. in the case of personal/critical data, information and knowledge). This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to deliver data information and knowledge towards its end users. This item is compliant with the EIRA ABB 'Legislation on Data, Information and Knowledge Exchange'.
<i>Question</i>	<p>To what extent is the service compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format?</p> <ul style="list-style-type: none"> • The service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format • The service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered • The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for a limited volume of data, information and knowledge delivered • The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered • The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for any data, information and knowledge • Not applicable or not necessary (because e.g. there is no M2M delivery or no such legislation in place) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • Digital-ready legislation streamlines access to adult education and continuing training via the establishment of a database of evidence of formal qualifications for adult education and continuing training • A national legal act introduces new provisions for the payment of allowances for participation and the cost of transport that allows citizens and businesses to benefit from automated case handling and rapid decisions • The data transmission of the eGovernment portal is held via AI-based tools and text mining algorithms following the EU Framework of ethical aspects of artificial intelligence, robotics and related technologies.
<i>Question logic</i>	Next question
D4.	
<i>Name</i>	Licenses for data transmission

<i>Category</i>	Enabler
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item aims to assess how the specifications of the data, information and knowledge delivered by the digital public service are translated into terms and conditions that accompany their delivery and allow their reuse by the end users of the digital public service. A data license is a legal instrument that explicitly specifies these terms and conditions. The type of the legal license determines the extent of the data, information and knowledge delivery and reuse by the end users of the digital public service (e.g. proprietary or open license). This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to deliver data information and knowledge towards its end users. This item is compliant with the EIRA ABB 'Legislation on Data, Information and Knowledge Exchange'.</p>
<i>Question</i>	<p>To what extent does the service enable the reuse of the data, information and knowledge delivered under a license that describes the terms and conditions for their reuse?</p> <ul style="list-style-type: none"> • The service does not enable any reuse of the data, information and knowledge delivered • The service enables the reuse of the data, information and knowledge delivered under only proprietary licenses that describe the terms and conditions for their reuse. • The service enables the reuse of a limited amount of data, information and knowledge delivered under open-source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. • The service enables the reuse of most data, information and knowledge delivered under open-source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. • The service enables the reuse of any data, information and knowledge delivered under open-source licenses that describe the terms and conditions for their reuse. • Not applicable or not necessary (because there are no legal obligations to require licensing the data, information and knowledge delivered) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • Dublinked uses the Creative Commons Attribution (CC-BY) license. This license lets others distribute, remix, tweak, and build upon data, even commercially, as long as users credit the original publisher for the original creation. • Open government license, United Kingdom Government license. A good example of a simple government license which respects the specific terms of a public body (http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/).
<i>Question logic</i>	Next question

D5.

<i>Name</i>	Legal framework of the service
<i>Category</i>	Enabler
<i>Weight</i>	30%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item examines to what extent the digital public service informs its end users around the legal aspects that define the specifications of the data, information and knowledge delivered by the digital public service to its end users. This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to deliver data information and knowledge towards its end users. This item is compliant with the EIRA ABB 'Shared Legal Content'.
<i>Question</i>	<p>To what extent does the service provide to the end users information about the legal aspects that define the specifications of the delivered data, information and knowledge?</p> <ul style="list-style-type: none"> • Not at all, the legal aspects of the service are not available to the end users • The service provides to the end users information about the legal aspects that define the specifications of the delivered data, information and knowledge in an ad-hoc manner (e.g. on demand) • The service provides to the end users limited information about the legal aspects that define the specifications of the delivered data, information and knowledge • The service provides to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge • The service provides to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge and periodically updates this information • Not applicable or not necessary (because there is no legal basis around the data, information and knowledge delivered by the service) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • The service is designed based on a Shared Legal Content in relation to public policy goals attainment which is available for the consumers on demand. • The service is regulated primarily by the Constitution and the Public Administration Act which are publicly available. • The service is regulated by the Public Service Commission General Regulations, which govern the Commission's internal proceedings; the Public Service Commission Appointments Regulations, which govern appointments in the Public Service; and the Disciplinary Procedure in the Public Service Commission Regulations, which regulate discipline in the Public Service
<i>Question logic</i>	Next question

D6.

<i>Name</i>	End users consent
<i>Category</i>	Enabler
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item assesses the type of consent that the digital public service requests from the end user in order to deliver the requested data, information and knowledge. This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to deliver data information and knowledge towards its end users. This item is compliant with the EIRA ABB 'Legislation on Data Information and Knowledge Exchange'.
<i>Question</i>	<p>To what extent does the service request end-user's consent prior to the delivery of data, information and knowledge?</p> <ul style="list-style-type: none"> • The service does not request any end-user consent although the data, information and knowledge delivered required prior to delivery are subject to data protection provisions. • The service implicitly requests an "implied consent" in the sense that the end users provide their details (email, name, etc.) required prior to delivery, but do not sign anything to explicitly say (e.g. by ticking a box) that they agree on sharing their personal data. This is implicit in their participation. • The service requests an "informed consent" in the sense that the end users understand what they are signing up to, prior to delivery, following a clear and understandable language. • The service requests an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g. by ticking one or more boxes or signing a form that clearly describes the data, information and knowledge to be processed and shared). • The service requests an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g. by ticking one or more boxes or signing a form that clearly describes the data, information and knowledge to be processed and shared) and they are also provided with consent management options • Not applicable or not necessary (because e.g. none of the data, information and knowledge required prior to delivery is subject to any data protection provisions) • No answer

<i>Examples</i>	<ul style="list-style-type: none"> • A public authority requests for consent for the publication of names together with contributions or feedbacks, in accordance with Article 5(1)(d) of Regulation (EU) 2018/1725. • Two public bodies require the same information for issuing their permit for a land owner, but are not accessing each other's databases. Therefore, they ask for land owner's consent to merge the files, to avoid duplicate procedures and correspondence.
<i>Question logic</i>	Next question

D7.

<i>Name</i>	Management of end users consent
<i>Category</i>	Manifestation
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item assesses the type of consent that the digital public service has obtained from the end user in order to deliver the requested data, information and knowledge. This item examines a legal behavioural interoperability manifestation of the public service delivering data, information and knowledge towards its end users (in terms of user experience). This item is compliant with the EIRA ABB 'Legislation on Data Information and Knowledge Exchange'.
<i>Question</i>	<p>To what extent does the service obtain end-user consent for the reuse of their delivered data, information and knowledge?</p> <ul style="list-style-type: none"> • The service does not obtain end-user consent for the reuse of their delivered data, information and knowledge • The service obtains a one-time consent from the end user for the reuse of their delivered data, information and knowledge • The service obtains an "explicit consent" from the end-user to deliver data, information and knowledge. This means that it can reuse specific data and for specific purposes based on specific terms that the end-user has chosen (e.g. by ticking one or more boxes). • The service obtains "full consent" from the end-user in the sense that it can fully reuse end-user data, information and knowledge delivered, for any purpose • The service obtains "full consent" from the end-user in the sense that it can fully reuse end-user data, information and knowledge delivered, for any purpose, as well as share with other parties. • Not applicable or not necessary (because e.g none of the data, information and knowledge delivered is subject to any data protection provisions) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • A local municipality that is planning road maintenance works, offers citizens to subscribe to an email list to receive updates on the progress of the works and on expected delays asking for their full consent to

	reuse their email addresses at any time there are road maintenance works.
<i>Question logic</i>	Next question

D8.

<i>Name</i>	Data reusability
<i>Category</i>	Manifestation
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item examines to what extent the digital public service delivers already reusable data that discovers from database registries and other similar sources. In order to create cohesion across the public sector and to support an effective digital public service, the public administrations should consider whether, instead of introducing new specifications, to possibly reuse data from existing public registries as a basis for simplification and administration of the legislation. A shared legal framework is necessary to facilitate this discoverability and reusability. This item examines a legal behavioural interoperability manifestation that facilitates the digital public service to deliver data, information and knowledge towards its end users (in terms of performance). This item is compliant with the EIRA ABB 'Shared Legal Content'.</p>
<i>Question</i>	<p>To what extent does the service deliver data, information and knowledge consumed from other services based on a shared legal framework? (e.g. address, geolocation data, personal data)</p> <ul style="list-style-type: none"> • The service does not deliver any of the data, information and knowledge consumed from other services • The service delivers data, information and knowledge consumed from other services, only in an ad-hoc manner (e.g. on demand) • The service delivers data, information and knowledge consumed from other services at a limited extent (i.e. very few of the delivered data, information and knowledge comes directly from other services). • The service delivers data, information and knowledge consumed from other services at a large extent (i.e. most of the delivered data, information and knowledge comes directly from other services). • The service delivers data, information and knowledge consumed only from other services (i.e. any of the delivered data, information and knowledge comes directly from other services and the user entry is minimised to zero). • Not applicable or not necessary (because e.g. the service does not consume data, information and knowledge from any electronic registries nor other sources or, because none of the consumed data is applicable to be already reusable in delivery). • No answer

<i>Examples</i>	<ul style="list-style-type: none"> • A specific ministry reuses data from existing business registers and integrates them in the national portal of citizens. • A public administration uses uniform concepts and creates a basis for reuse of data by the authorities.
<i>Question logic</i>	Next question

D9.

<i>Name</i>	Administrative simplification
<i>Category</i>	Manifestation
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item aims to assess how the public service manifests its legal behavioural interoperability performance towards its end users. It examines how adequately described and understood the legal rules and concepts of the digital public service are. The implementation of simple and clear rules often have the character of regulatory simplification and administrative streamlining. The legislation should be simple and clear so that it is easy to understand for citizens as well as businesses. Simple rules facilitate the protection of legal rights by providing more clarity on the legal position of the individual and improve citizens' and businesses' experience of being treated fairly. For the authorities, simple and clear rules have the advantage of being easier to administer and contribute to a more uniform administration and digital legislative support. This item examines a legal behavioural interoperability manifestation of the public service delivering data, information and knowledge towards its end users (in terms of user experience). This item is compliant with the EIRA ABB 'Shared Legal Content'.</p>
<i>Question</i>	<p>To what extent does the service provide user friendly explanations on the legal provisions concerning the data, information and knowledge delivered?</p> <ul style="list-style-type: none"> • The service does not provide any explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered • The service provides ad-hoc explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered (e.g. on demand) • The service provides somehow clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered • The service provides fully clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered • The service provides fully clear and comprehensible explanations (rules and concepts) on the legal provisions regarding the data, information and knowledge delivered and constantly refines this information • Not applicable, there is no need to have such rules in place • No answer

<i>Examples</i>	<ul style="list-style-type: none"> Digital-ready legislation streamlines access to adult education and continuing training via legislative provisions that are as clear and simple as possible. The regulation on the letting of all-year dwellings and the letting of part of an all-year dwelling is made simpler and easier to manage for the benefit of the public administration and for the benefit of citizens wishing to rent their all-year dwellings.
<i>Question logic</i>	Next question

D10.

<i>Name</i>	Tracing and logging mechanisms
<i>Category</i>	Manifestation
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item examines whether there are any tracing and logging mechanisms in place to follow and monitor the flow of data, information and knowledge delivered, as well as monitor a single user's journey across the various steps of the service, ensuring thus, a secure delivery of data, information and knowledge. This item examines a legal behavioural interoperability manifestation of the public service delivering data, information and knowledge towards its end users (in terms of performance). This item is compliant with the EIRA ABB 'Shared Legal Content'.</p>
<i>Question</i>	<p>To what extent does the service provide tracing and logging mechanisms for the actions performed by the actors in control of the data to allow a secure delivery of data, information and knowledge towards its end users?</p> <ul style="list-style-type: none"> No such mechanism is in place although the service should have user tracing and logging applications to monitor the delivery of data, information and knowledge across a single user's journey through the service There are user tracing and logging applications in place, to monitor the delivery of data, information and knowledge across a single user's journey through the service, involving different actors and their roles, whose responsibilities are clearly established from the outset and explained to the end users Not applicable, the service does not need to have any tracing and logging mechanisms No answer
<i>Examples</i>	<ul style="list-style-type: none"> To ensure accountability in the eHealth portal, the controller of contact tracing application is clearly defined; the national health authorities are the controllers. A public authority provides a digital public service based on a mandate assigned by and in line with requirements laid down by law, having as legal basis for the consumption/processing of data the Art. 6(1)(e) of GDPR

Question logic

Next question

Maturity scoring: The overall weight of this area in the total maturity score is 70%. For more information, please see [section 6.3](#).

5.2.3 Service Consumption (C) - Questions

C1.

<i>Name</i>	Legal obligations for the data processed
<i>Category</i>	Enabler
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item examines to what extent the digital public service is compliant with the legal obligations (e.g. legislations) that define the specifications of the data, information and knowledge consumed by the digital public service from other services. Compliance with all relevant legal obligations might cause legal barriers due to the multiple legal obligations that have to be resolved (see next question). This item examines the legal behavioural interoperability specifications of data, information and knowledge consumed by the digital public service from other services. This item is compliant with the EIRA ABB 'Legal Act' and 'Granularity of Legal Requirements'.
<i>Question</i>	<p>To what extent is the service compliant with the legal obligations that define the specifications of the data, information and knowledge consumed by other services?</p> <ul style="list-style-type: none"> • The service is not compliant with any of the existing legal obligations that affect the consumption of data, information and knowledge • The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a local level • The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a regional level • The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a national level • The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at EU level (e.g. to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.) • Not applicable or not necessary (because e.g. there are no legal obligations that affect the consumption of data, information and knowledge) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • The national electronic public procurement platform consumes personal data of the contracting authorities following the GDPR

	<ul style="list-style-type: none"> Portugal and the Czech Republic with eID schemes based on the electronic national identity card are compliant with the eIDAS Regulation
Question logic	Next question

C2.	
Name	Legal basis on data processing
Category	Manifestation
Weight	50%
Question type	Multiple choice (1 answer possible)
Rationale	<p>This item examines to what extent the digital public service is mandated by a legal basis that defines the specifications of the data, information and knowledge consumed by the digital public service. Such a legal basis aims to resolve any legal barriers that may impact the consumption of data, information and knowledge (e.g. in the case of personal / critical data, information and knowledge). The type of legal basis in place defines the extent of the legal/juridical certainty and determinacy for the consumption of data, information and knowledge. This item examines the legal behavioural interoperability specifications of data, information and knowledge consumed by the digital public service from other services. This item is compliant with the EIRA ABB 'Legislation on Data Information and Knowledge Exchange'.</p>
Question	<p>To what extent is the service mandated by a legal basis that defines the specifications for the data, information and knowledge consumption from other services?</p> <ul style="list-style-type: none"> The service does not refer to the legal basis on the data, information and knowledge it consumes, although there are legal barriers that impact the consumption that have to be legally resolved (e.g. in the case of personal/critical data, information and knowledge that have to be consumed). The service provides custom rules to define the specifications for the consumption of data, information and knowledge, but there are legal barriers that impact the consumption of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered). The service provides formal rules to define the specifications for the consumption of a limited amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR) The service provides formal rules to define the specifications for the consumption of most data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR)

	<ul style="list-style-type: none"> • The service provides formal rules to define the specifications for the consumption of any data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing operations on the protection of personal data e.g. GDPR). • Not applicable or not necessary (because e.g. there are no legal barriers to impact the consumption of data, information and knowledge and thus, no need to be legally resolved). • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • A national eGovernment portal process the consumed data under legally binding requirements at a national level. • A national eProcurement platform uses the ESPD which allows business to easily tender in different countries (the "legal mandate" is also semantic for the service providers) having EU rules in place for the data consumption from the economic operators
<i>Question logic</i>	Next question

C3.

<i>Name</i>	Digital-ready legislation for automated processing of data
<i>Category</i>	Enabler
<i>Weight</i>	20%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item examines to what extent there are digital-ready policies and legislations in place that mandate a digital and automated consumption of data, information and knowledge (from other parties, registries, services, etc.) by the digital public service (digital-ready legislation). Such a mandate enables and facilitates the digital public service to consume data, information and knowledge in an interoperable and future-proof way. This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to consume data information and knowledge. This item is compliant with the EIRA ABB 'Legislation on Data Information and Knowledge Exchange'.
<i>Question</i>	<p>To what extent is the service compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format?</p> <ul style="list-style-type: none"> • The service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format • The service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered • The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g.,

	<p>via IT applications interfacing with information systems) for a limited volume of data, information and knowledge delivered</p> <ul style="list-style-type: none"> • The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered • The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for any data, information and knowledge • Not applicable or not necessary (because e.g., there is no M2M consumption or no such legislation in place) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • The data consumption from the eGovernment portal is held via AI-based tools and text mining algorithms following the EU Framework of ethical aspects of artificial intelligence, robotics and related technologies. • The personal data consumption from the web service of the national bank uses IT application interfacing with IT systems
<i>Question logic</i>	Next question

C4.

<i>Name</i>	Licenses for data processing
<i>Category</i>	Enabler
<i>Weight</i>	40%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item aims to assess to what extent the specifications of the data, information and knowledge consumed by the digital public service are provided as terms and conditions for their reuse by the digital public service. A data license is a legal instrument that explicitly specifies these terms and conditions. The type of the legal license determines the extent of the data, information and knowledge consumption and reuse by the digital public service (e.g. data consumed under a proprietary or open license). This item examines a legal behavioural interoperability capability that enables and facilitates the digital public service to consume data information and knowledge towards its end users. This item is compliant with the EIRA ABB 'Legislation on Data Information and Knowledge Exchange'.</p>
<i>Question</i>	<p>To what extent does the service consume data, information and knowledge that are subject to a license that describes their specifications?</p> <ul style="list-style-type: none"> • The service does not enable any reuse of the data, information and knowledge consumed • The service enables the reuse of the data, information and knowledge consumed under only proprietary licenses that describe the terms and conditions for their reuse.

	<ul style="list-style-type: none"> • The service enables the reuse of a limited amount of data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. • The service enables the reuse of most data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. • The service enables the reuse of any data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse. • Not applicable or not necessary (because there are no legal obligations to require licensing the data, information and knowledge consumed) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • Dublinked uses the Creative Commons Attribution (CC-BY) license. This license lets others distribute, remix, tweak, and build upon data, even commercially, as long as users credit the original publisher for the original creation. • Open government license (http://www.nationalarchives.gov.uk/doc/open-government-licence/version/2/)- United Kingdom Government license. A good example of a simple government license which respects the specific terms of a public body.
<i>Question logic</i>	Next question

C5.	
<i>Name</i>	Data reusability
<i>Category</i>	Enabler
<i>Weight</i>	40%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item assesses how the digital public service discovers and consumes already reusable data information and knowledge. It examines whether this consumption is done in an ad-hoc way, under specific legal agreements or legal rights that are imposed or openly, via an automatic discovery and consumption from database registries and other similar sources. In order to create cohesion across the public sector and to support an effective digital public service, the public administrations should consider whether, instead of introducing new specifications, to possibly reuse data from existing public registries as a basis for simplification and administration of the legislation. A shared legal framework is necessary to facilitate this discoverability and consumption. This item examines a legal behavioural interoperability capability that enables the digital public service to consume data, information and knowledge that are already reusable, preferably in an automated manner. This item is compliant with the EIRA ABB 'Shared Legal Content'.</p>

<i>Question</i>	<p>To what extent does the service consume already reusable data, information and knowledge from other services?</p> <ul style="list-style-type: none"> • The service does not consume already reusable data of public sector information (e.g., they might be subject to the right of the protection of personal data) • The service discovers and consumes already reusable open data from open data portals or catalogues where there is a public access of data and information • Not applicable or not necessary (e.g., new data are only being consumed from citizens) • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • The national public procurement portal reuses data (notices) from the Tenders Electronic Daily (TED) platform. • The ministry of Agriculture in Greece reuses Open data on pesticide use in agriculture from the European Data Portal.
<i>Question logic</i>	Next question

C6.

<i>Name</i>	Preservation policy of data
<i>Category</i>	Manifestation
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	<p>This item examines whether there is a preservation policy in place for keeping the already consumed data in an electronic format, ensuring their shareability and reusability. It is an important manifestation that ensures iteration with other services and it is linked with integrity of data, which is a key aspect in security (CIA -> Confidentiality, Integrity, Availability). This item examines a legal behavioural interoperability manifestation of the digital public service consuming data, information and knowledge (in terms of performance and results). This item is compliant with the EIRA ABB 'Shared Legal Content.</p>
<i>Question</i>	<p>To what extent does the service have preservation policies in place to specify the time period for keeping the data, information and knowledge consumed in an electronic format?</p> <ul style="list-style-type: none"> • The service does not apply such policies, although it consumes and maintains data from other services • The service uses formal standards around data preservation e.g., ISO 19165-1:2018 — Preservation of digital data and metadata • Not applicable, the service does consume data • No answer
<i>Examples</i>	<ul style="list-style-type: none"> • By using CISE specifications and data models, public administrations are contributing to the preservation policy of their data in the maritime domain that will help to ensure the shareability and reusability in the future.

	<ul style="list-style-type: none"> eArchiving provides documentation and support services based on international standards to help describe, transmit and preserve digital information.
<i>Question logic</i>	Next question

C7.	
<i>Name</i>	Tracing and logging mechanisms
<i>Category</i>	Manifestation
<i>Weight</i>	50%
<i>Question type</i>	Multiple choice (1 answer possible)
<i>Rationale</i>	This item examines whether there are any tracing and logging mechanisms in place to ensure the secure consumption of data. This item examines a legal behavioural interoperability manifestation of the digital public service consuming data, information and knowledge (in terms of performance). This item is compliant with the EIRA ABB 'Shared Legal Content'.
<i>Question</i>	<p>To what extent are tracing and logging mechanisms in place to monitor and ensure the secure consumption of data, information and knowledge from other services?</p> <ul style="list-style-type: none"> No such mechanism is in place although the service should have user tracing and logging applications to monitor the consumption of data, information and knowledge across a single user's journey through the service There are user tracing and logging applications in place, to monitor the consumption of data, information and knowledge across a single user's journey through the service, involving different actors and their roles, and the legal basis for consuming personal data is compliant with GDPR i.e., Art. 6(1)(e). Not applicable, the service does not need to have any tracing and logging mechanisms No answer
<i>Examples</i>	<ul style="list-style-type: none"> To ensure accountability in the eHealth portal, the controller of contact tracing application is clearly defined; the national health authorities are the controllers. A public authority provides a digital public service based on a mandate assigned by and in line with requirements laid down by law, having as legal basis for the processing of data the Art. 6(1)(e) of GDPR.
<i>Question logic</i>	Next question

Maturity scoring: The overall weight of this area in the total maturity score is 30%. For more information, please see [section 6.3](#).

6 LIMAPS RECOMMENDATIONS

The main objective of the **Legal Interoperability Maturity Assessment of a Public Service (LIMAPS)** is to provide insight into how digital public services can improve their legal behavioural interoperability maturity. After filling in the online questionnaire, the respondent receives a PDF with advice on how to improve the legal behavioural interoperability of his digital public service. This section presents how these recommendations are generated.

6.1 Principles

The following five principles are applied to generate recommendations:

- **Principle 1:** Each legal interoperability item includes 5 options, each one of them corresponding to one of the 5 interoperability levels;
- **Principle 2:** The improvement tables provide recommendations on how to improve maturity gradually for a specific legal interoperability item;
- **Principle 3:** When a digital public service does not yet reach the maximum level for a specific legal interoperability attribute, a recommendation is given to make the step towards the next legal interoperability level;
- **Principle 4:** When a digital public service successfully attains the maximum maturity level for a legal interoperability item, no recommendation is given⁸;
- **Principle 5:** When the maturity improvement is not based on specific legal interoperability characteristics per level, a sliding scale (e.g., from less to more) is used. In this scenario, a generic recommendation (not maturity level specific) is given to improve the maturity further along the sliding scale.

6.2 Recommendations overview

For each improvement step, the recommendation tables in the following chapters show:

- The question the recommendation relates to;
- The assessed maturity level;
- The next maturity level to be reached through improvement⁹;
- The recommendation as to how to reach the next maturity level.

⁸ The reason for this is that in this case- according to the model- the service is already implementing a legal interoperability attribute in a way that it corresponds to best practice. There are no direct recommendations to improve further

⁹ With the exception when this is considered a sliding scale

6.3 Recommendations

6.3.1 Service Delivery (D) – Scoring table

Table 3: Service Delivery scoring model

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
D1	The service is not compliant with any of the existing legal obligations that affect the delivery of data, information and knowledge	The service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a local level	The service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a regional level	The service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a national level	The service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at EU level (e.g., to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.)	Not applicable or not necessary (because e.g., there are no legal obligations that affect the delivery of data, information and knowledge)	No answer
D2	The service does not refer to the legal basis on the data, information and knowledge it delivers, although there are legal barriers that impact their delivery that have to be legally resolved (e.g., in the case of personal/critical data,	The service provides custom rules to define the specifications for the delivery of data, information and knowledge, but there are legal barriers that impact the delivery of data, information and knowledge that require a stronger legal	The service provides formal rules to define the specifications for the delivery of a limited amount of data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the	The service provides formal rules to define the specifications for the delivery of most data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and	The service provides formal rules to define the specifications for the delivery of any data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and	Not applicable or not necessary (because e.g., there are no legal barriers to impact the delivery of data, information and knowledge and thus, no need to be legally resolved).	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
	information and knowledge that have to be delivered).	basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).	envisaged delivery and processing operations on the protection of personal data e.g., GDPR)	processing operations on the protection of personal data e.g. GDPR)	processing operations on the protection of personal data e.g. GDPR).		
D3	The service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format	The service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered	The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for a limited volume of data, information and knowledge delivered	The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered	The service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for any data, information and knowledge	Not applicable or not necessary (because e.g., there is no M2M delivery or no such legislation in place)	No answer
D4	The service does not enable any reuse of the data, information and knowledge delivered	The service enables the reuse of the data, information and knowledge delivered under only proprietary licenses that describe the	The service enables the reuse of a limited amount of data, information and knowledge delivered under open source	The service enables the reuse of most data, information and knowledge delivered under open source licenses that describe the	The service enables the reuse of any data, information and knowledge delivered under open source licenses that describe the	Not applicable or not necessary (because there are no legal obligations to require licensing the data,	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
		terms and conditions for their reuse.	licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume.	terms and conditions for their reuse. Activities are in place to improve this volume.	terms and conditions for their reuse.	information and knowledge delivered	
D5	Not at all, the legal aspects of the service are not available to the end users	The service provides to the end users information about the legal aspects that define the specifications of the delivered data, information and knowledge in an ad-hoc manner (e.g. on demand)	The service provides to the end users limited information about the legal aspects that define the specifications of the delivered data, information and knowledge	The service provides to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge	The service provides to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge and periodically updates this information	Not applicable or not necessary (because there is no legal basis around the data, information and knowledge delivered by the service)	No answer
D6	The service does not request any end-user consent although the data, information and knowledge delivered required prior to delivery are subject to data protection provisions.	The service implicitly requests an "implied consent" in the sense that the end users provide their details (email, name, etc.) required prior to delivery, but do not sign anything to explicitly say (e.g., by ticking a box) that they agree on	The service requests an "informed consent" in the sense that the end users understand what they are signing up to, prior to delivery, following a clear and understandable language.	The service requests an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g., by ticking one or more boxes or signing a	The service requests an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g., by ticking one or more boxes or signing a	Not applicable or not necessary (because e.g., none of the data, information and knowledge required prior to delivery is subject to any data protection provisions)	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
		sharing their personal data. This is implicit in their participation.		form that clearly describes the data, information and knowledge to be processed and shared).	form that clearly describes the data, information and knowledge to be processed and shared) and they are also provided with consent management options		
D7	The service does not obtain end-user consent for the reuse of their delivered data, information and knowledge	The service obtains a one-time consent from the end user for the reuse of their delivered data, information and knowledge	The service obtains an "explicit consent" from the end-user to deliver data, information and knowledge. This means that it can reuse specific data and for specific purposes based on specific terms that the end-user has chosen (e.g., by ticking one or more boxes).	The service obtains "full consent" from the end-user in the sense that it can fully reuse end-user data, information and knowledge delivered, for any purpose	The service obtains "full consent" from the end-user in the sense that it can fully reuse end-user data, information and knowledge delivered, for any purpose, as well as share with other parties.	Not applicable or not necessary (because e.g., none of the data, information and knowledge delivered is subject to any data protection provisions)	No answer
D8	The service does not deliver any of the data, information and knowledge consumed from other services	The service delivers data, information and knowledge consumed from other services, only in an ad-hoc	The service delivers data, information and knowledge consumed from other services at a limited extent (i.e.,	The service delivers data, information and knowledge consumed from other services at a large extent (i.e., most of	The service delivers data, information and knowledge consumed only from other services (i.e., any of the	Not applicable or not necessary (because e.g., the service does not consume data,	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
		manner (e.g., on demand)	very few of the delivered data, information and knowledge comes directly from other services).	the delivered data, information and knowledge comes directly from other services).	delivered data, information and knowledge comes directly from other services and the user entry is minimised to zero).	information and knowledge from any electronic registries nor other sources or, because none of the consumed data is applicable to be already reusable in delivery).	
D9	The service does not provide any explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered	The service provides ad-hoc explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered (e.g., on demand)	The service provides somehow clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered	The service provides fully clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered	The service provides fully clear and comprehensible explanations (rules and concepts) on the legal provisions regarding the data, information and knowledge delivered and constantly refines this information	Not applicable, there is no need to have such rules in place	No answer
D10	No such mechanism is in place although the service should have user tracing and logging applications				There are user tracing and logging applications in place, to monitor the delivery of data, information	Not applicable, the service does not need to have any tracing and	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
	to monitor the delivery of data, information and knowledge across a single user's journey through the service				and knowledge across a single user's journey through the service, involving different actors and their roles, whose responsibilities are clearly established from the outset and explained to the end users	logging mechanisms	

6.3.2 Service Delivery (D) – Recommendations

The table below presents the respective recommendation to each option in LIMAPS questionnaire. As mentioned above, the purpose of the recommendations is to propose the needed actions to be taken by the digital public service owners in order to **achieve a higher level of legal interoperability maturity**.

In case the selected option is associated to “Seamless level (5)”, then no action is required from the public service owners and the recommendation is by default “Congratulations, you are at the Seamless level”.

Table 4: Service Delivery Recommendations

Question	Addressed Level	Next Level	Recommendation
D1.	Ad hoc (1)	Opportunistic (2)	Currently, the service is not compliant with any of the existing legal obligations that affect the delivery of data, information and knowledge Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a local level
	Opportunistic (2)	Essential (3)	Currently, the service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a local level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a regional level."

Question	Addressed Level	Next Level	Recommendation
	Essential (3)	Sustainable (4)	Currently, the service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a regional level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a national level
	Sustainable (4)	Seamless (5)	Currently, the service is compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at a national level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the delivery of data, information and knowledge, at EU level (e.g. to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.)
D2.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not refer to the legal basis on the data, information and knowledge it delivers, although there are legal barriers that impact their delivery that have to be legally resolved (e.g. in the case of personal/critical data, information and knowledge that have to be delivered). Consider performing the necessary actions so as to enable the service to provide custom rules to define the specifications for the delivery of data, information and knowledge, but there are legal barriers that impact the delivery of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).
	Opportunistic (2)	Essential (3)	Currently, the service provides custom rules to define the specifications for the delivery of data, information and knowledge, but there are legal barriers that impact the delivery of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered). Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the delivery of a limited amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR)
	Essential (3)	Sustainable (4)	Currently, the service provides formal rules to define the specifications for the delivery of a limited amount of data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g.

Question	Addressed Level	Next Level	Recommendation
			GDPR) Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the delivery of most data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR)
	Sustainable (4)	Seamless (5)	Currently, the service provides formal rules to define the specifications for the delivery of most data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR) Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the delivery of any data, information and knowledge (e.g. a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR).
D3.	Ad hoc (1)	Opportunistic (2)	Currently, the service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered
	Opportunistic (2)	Essential (3)	Currently, the service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered. Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for a limited volume of data, information and knowledge delivered
	Essential (3)	Sustainable (4)	Currently, the service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for a limited volume of data, information and knowledge

Question	Addressed Level	Next Level	Recommendation
			<p>delivered.</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered.</p>
	Sustainable (4)	Seamless (5)	<p>Currently, the service is compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered.</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format (e.g. via IT applications interfacing with information systems) for any data, information and knowledge.</p>
D4.	Ad hoc (1)	Opportunistic (2)	<p>Currently, the service does not enable any reuse of the data, information and knowledge delivered. Consider performing the necessary actions so as for the service to enable the reuse of data, information and knowledge delivered under licenses that describe the terms and conditions for their reuse.</p>
	Opportunistic (2)	Essential (3)	<p>Currently, the service enables the reuse of the data, information and knowledge delivered under only proprietary licenses that describe the terms and conditions for their reuse. Consider performing the necessary actions so as for the service to enable the reuse of a limited amount of data, information and knowledge delivered under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume.</p>
	Essential (3)	Sustainable (4)	<p>Currently, the service enables the reuse of a limited amount of data, information and knowledge delivered under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. Consider performing the necessary actions so as for the service to enable the reuse of most data, information and knowledge delivered under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume.</p>
	Sustainable (4)	Seamless (5)	<p>Currently, the service enables the reuse of most data, information and knowledge delivered under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume.</p>

Question	Addressed Level	Next Level	Recommendation
			Consider performing the necessary actions so as for the service to enable the reuse of any data, information and knowledge delivered under open source licenses that describe the terms and conditions for their reuse.
D5.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not provide to the end user any information about the legal aspects that define the specifications of the delivered data, information and knowledge, Consider performing the necessary actions so as to enable the service to provide to the end users information about the legal aspects that define the specifications of the delivered data, information and knowledge in an ad-hoc manner (e.g., on demand)
	Opportunistic (2)	Essential (3)	Currently, the service provides to the end users information about the legal aspects that define the specifications of the delivered data, information and knowledge in an ad-hoc manner (e.g., on demand) Consider performing the necessary actions so as to enable the service to provide to the end users limited information about the legal aspects that define the specifications of the delivered data, information and knowledge
	Essential (3)	Sustainable (4)	Currently, the service provides to the end users limited information about the legal aspects that define the specifications of the delivered data, information and knowledge Consider performing the necessary actions so as to enable the service to provide to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge
	Sustainable (4)	Seamless (5)	Currently, the service provides to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge Consider performing the necessary actions so as to enable the service to provide to the end users detailed information about the legal aspects that define the specifications of the delivered data, information and knowledge and periodically updates this information
D6.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not request any end-user consent although the data, information and knowledge delivered required prior to delivery are subject to data protection provisions. Consider performing the necessary actions so as to enable the service to request an "implied consent" in the sense that the end users provide their details (email, name, etc.) required prior to delivery, but do not sign anything to explicitly say (e.g. by ticking a box) that they agree on sharing their personal data.

Question	Addressed Level	Next Level	Recommendation
	Opportunistic (2)	Essential (3)	Currently, the service implicitly requests an "implied consent" in the sense that the end users provide their details (email, name, etc.) required prior to delivery, but do not sign anything to explicitly say (e.g. by ticking a box) that they agree on sharing their personal data. This is implicit in their participation. Consider performing the necessary actions so as to enable the service to request an "informed consent" in the sense that the end users understand what they are signing up to, prior to delivery, following a clear and understandable language.
	Essential (3)	Sustainable (4)	Currently, the service requests an "informed consent" in the sense that the end users understand what they are signing up to, prior to delivery, following a clear and understandable language. Consider performing the necessary actions so as to enable the service to request an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g. by ticking one or more boxes or signing a form that clearly describes the data, information and knowledge to be processed and shared).
	Sustainable (4)	Seamless (5)	Currently, the service requests an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g. by ticking one or more boxes or signing a form that clearly describes the data, information and knowledge to be processed and shared). Consider performing the necessary actions so as to enable the service to request an "explicit consent" in the sense that the end users give clear and documentable consent, prior to delivery, to the terms of the agreement (e.g. by ticking one or more boxes or signing a form that clearly describes the data, information and knowledge to be processed and shared) and they are also provided with consent management options
D7.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not obtain end-user consent for the reuse of their delivered data, information and knowledge. Consider performing the necessary actions so as to enable the service to obtain e.g., a one-time consent from the end user in order to deliver data, information and knowledge. Consider obtaining an "explicit consent" from the end-user to be able to reuse specific data and for specific purposes based on specific terms that the end-user has opted for.

Question	Addressed Level	Next Level	Recommendation
	Opportunistic (2)	Essential (3)	Currently, the service obtains a one-time consent from the end user in order to deliver data, information and knowledge. Consider obtaining an "explicit consent" from the end-user to be able to reuse specific data and for specific purposes based on specific terms that the end-user has opted for.
	Essential (3)	Sustainable (4)	Currently, the service obtains an "explicit consent" from the end-user to deliver data, information and knowledge. Consider obtaining a "full consent" to be able to fully reuse end-user data, information and knowledge.
	Sustainable (4)	Seamless (5)	Currently, the service obtains "full consent" in the sense that it can fully reuse end-user data, information and knowledge. Consider obtaining "full consent" to be also able to share the end-user data, information and knowledge with other parties.
D8.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not deliver any of the data, information and knowledge consumed from other services Consider performing the necessary actions so as to enable the service to deliver data, information and knowledge consumed from other services, in an ad-hoc manner (e.g. on demand)
	Opportunistic (2)	Essential (3)	Currently, the service delivers data, information and knowledge consumed from other services, only in an ad-hoc manner (e.g. on demand). Consider performing the necessary actions so as to enable the service to deliver data, information and knowledge consumed from other services at a limited extent (i.e. very few of the delivered data, information and knowledge comes directly from other services).
	Essential (3)	Sustainable (4)	Currently, the service delivers data, information and knowledge consumed from other services at a limited extent (i.e. very few of the delivered data, information and knowledge comes directly from other services). Consider performing the necessary actions so as to enable the service to deliver data, information and knowledge consumed from other services at a large extent (i.e. most of the delivered data, information and knowledge comes directly from other services).
	Sustainable (4)	Seamless (5)	Currently, the service delivers data, information and knowledge consumed from other services at a large extent (i.e. most of the delivered data, information and knowledge comes directly from other services). Consider performing the necessary actions so as to enable the service to deliver data, information and knowledge consumed only from other services (i.e. any of the delivered data, information and knowledge comes directly from other services and the user entry is minimised to zero).

Question	Addressed Level	Next Level	Recommendation
D9.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not provide any explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered Consider performing the necessary actions so as to enable the service to provide ad-hoc explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered (e.g. on demand)
	Opportunistic (2)	Essential (3)	Currently, the service provides ad-hoc explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered (e.g. on demand) Consider performing the necessary actions so as to enable the service to provide somehow clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered
	Essential (3)	Sustainable (4)	Currently, the service provides somehow clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered Consider performing the necessary actions so as to enable the service to provide fully clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered
	Sustainable (4)	Seamless (5)	Currently, the service provides fully clear and comprehensible explanations on the legal provisions (rules and concepts) regarding the data, information and knowledge delivered Consider performing the necessary actions so as to enable the service to provide fully clear and comprehensible explanations (rules and concepts) on the legal provisions regarding the data, information and knowledge delivered and constantly refines this information
D10.	Ad hoc (1)	Sustainable (4)	Currently, the service does not have any tracing and logging applications in place to monitor the delivery of data, information and knowledge. Consider applying user tracing and logging applications, to monitor the delivery of data, information and knowledge across a single user's journey through the service, involving different actors and their roles.

6.3.3 Service Consumption (C) – Scoring table

Table 5: Service Consumption scoring model

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
C1	The service is not compliant with any of the existing legal obligations that affect the consumption of data, information and knowledge	The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a local level	The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a regional level	The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a national level	The service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at EU level (e.g., to the Open Data Directive, to the eIDAS Regulation on electronic identification for electronic identification and/or trust services, etc.)	Not applicable or not necessary (because e.g. there are no legal obligations that affect the consumption of data, information and knowledge)	No answer
C2	The service does not refer to the legal basis on the data, information and knowledge it consumes, although there are legal barriers that impact the consumption that have to be legally resolved (e.g., in the case of personal/critical data, information and knowledge that have to be consumed).	The service provides custom rules to define the specifications for the consumption of data, information and knowledge, but there are legal barriers that impact the consumption of data, information and knowledge that require a stronger legal basis (e.g., in the case of personal/critical data,	The service provides formal rules to define the specifications for the consumption of a limited amount of data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption	The service provides formal rules to define the specifications for the consumption of most data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing	The service provides formal rules to define the specifications for the consumption of any data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged consumption and processing	Not applicable or not necessary (because e.g., there are no legal barriers to impact the consumption of data, information and knowledge and thus, no need to be legally resolved).	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
		information and knowledge that have to be delivered).	and processing operations on the protection of personal data e.g., GDPR)	operations on the protection of personal data e.g., GDPR)	operations on the protection of personal data e.g., GDPR).		
C3	The service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format	The service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be delivered	The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for a limited volume of data, information and knowledge delivered	The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for most volume of data, information and knowledge delivered	The service is compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format (e.g., via IT applications interfacing with information systems) for any data, information and knowledge	Not applicable or not necessary (because e.g., there is no M2M consumption or no such legislation in place)	No answer
C4	The service does not enable any reuse of the data, information and knowledge consumed	The service enables the reuse of the data, information and knowledge consumed under only proprietary licenses that describe the terms and conditions for their reuse.	The service enables the reuse of a limited amount of data, information and knowledge consumed under open source licenses that describe the	The service enables the reuse of most data, information and knowledge consumed under open source licenses that describe the terms and conditions for	The service enables the reuse of any data, information and knowledge consumed under open source licenses that describe the terms and conditions	Not applicable or not necessary (because there are no legal obligations to require licensing the data, information and	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
			terms and conditions for their reuse. Activities are in place to improve this volume.	their reuse. Activities are in place to improve this volume.	for their reuse.	knowledge consumed)	
C5	The service does not consume already reusable data of public sector information (e.g., they might be subject to the right of the protection of personal data)				The service discovers and consumes already reusable open data from open data portals or catalogues where there is a public access of data and information	Not applicable or not necessary (e.g., new data are only being consumed from citizens)	No answer
C6	The service does not apply such policies, although it consumes and maintains data from other services				The service uses formal standards around data preservation e.g., ISO 19165-1:2018 — Preservation of digital data and metadata	Not applicable , the service does consume data	No answer
C7	No such mechanism is in place although the service should have user tracing and logging applications to monitor the consumption of data, information and				There are user tracing and logging applications in place , to monitor the consumption of data, information and knowledge across a single user's	Not applicable , the service does not need to have any tracing and logging mechanisms	No answer

Item	Ad hoc (1)	Opportunistic (2)	Essential (3)	Sustainable (4)	Seamless (5)	N/A	No Answer
	knowledge across a single user's journey through the service				journey through the service, involving different actors and their roles, and the legal basis for consuming personal data is compliant with GDPR i.e., Art. 6(1)(e).		

6.3.4 Service Consumption (C) – Recommendations

Table 6: Service Consumption Recommendations

Question	Addressed Level	Next Level	Recommendation
C1.	Ad hoc (1)	Opportunistic (2)	Currently, the service is not compliant with any of the existing legal obligations that affect the consumption of data, information and knowledge. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a local level
	Opportunistic (2)	Essential (3)	Currently, the service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a local level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a regional level
	Essential (3)	Sustainable (4)	Currently, the service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a regional level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a national level.
	Sustainable (4)	Seamless (5)	Currently, the service is compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at a national level. Consider performing the necessary actions so as to enable the service to be compliant with the existing legal obligations that affect the consumption of data, information and knowledge, at EU level (e.g. to the Open Data Directive, to the eIDAS Regulation on

Question	Addressed Level	Next Level	Recommendation
			electronic identification for electronic identification and/or trust services, etc.)
C2.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not refer to the legal basis on the data, information and knowledge it consumes, although there are legal barriers that impact their the consumption that have to be legally resolved (e.g. in the case of personal/critical data, information and knowledge that have to be consumed). Consider performing the necessary actions so as to enable the service to provide custom rules to define the specifications for the consumption of data, information and knowledge, but there are legal barriers that impact the consumption of data, information and knowledge that require a stronger legal basis (e.g. in the case of personal/critical data, information and knowledge that have to be delivered).
	Opportunistic (2)	Essential (3)	"Currently, the service provides custom rules to define the specifications for the consumption of data, information and knowledge, but there are legal barriers that impact the consumption of data, information and knowledge that require a stronger legal basis (e.g., in the case of personal/critical data, information and knowledge that have to be delivered). Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the consumption of a limited amount of data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g. GDPR)"
	Essential (3)	Sustainable (4)	Currently, the service provides formal rules to define the specifications for the consumption of a limited amount of data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g., GDPR). Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the consumption of most data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g., GDPR)
	Sustainable (4)	Seamless (5)	Currently, the service provides formal rules to define the specifications for the consumption of most data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of

Question	Addressed Level	Next Level	Recommendation
			<p>the impact of the envisaged delivery and processing operations on the protection of personal data e.g., GDPR).</p> <p>Consider performing the necessary actions so as to enable the service to provide formal rules to define the specifications for the consumption of any data, information and knowledge (e.g., a legislation obliging the controller to carry out an assessment of the impact of the envisaged delivery and processing operations on the protection of personal data e.g., GDPR).</p>
C3.	Ad hoc (1)	Opportunistic (2)	<p>Currently, the service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format.</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be consumed</p>
	Opportunistic (2)	Essential (3)	<p>Currently, the service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be consumed</p>
	Essential (3)	Sustainable (4)	<p>Currently, the service is not compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format.</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be consumed</p>
	Sustainable (4)	Seamless (5)	<p>Currently, the service is not compliant with legislation that mandates the delivery of data, information and knowledge in a machine-readable format.</p> <p>Consider performing the necessary actions so as to enable the service to be compliant with legislation that mandates the consumption of data, information and knowledge in a machine-readable format, but there are actions in place towards enabling this functionality for a limited volume of data, information and knowledge to be consumed</p>

Question	Addressed Level	Next Level	Recommendation
C4.	Ad hoc (1)	Opportunistic (2)	Currently, the service does not enable any reuse of the data, information and knowledge consumed. Consider performing the necessary actions so as for the service to enable the reuse of data, information and knowledge consumed under licenses that describe the terms and conditions for their reuse.
	Opportunistic (2)	Essential (3)	Currently, the service enables the reuse of the data, information and knowledge consumed under only proprietary licenses that describe the terms and conditions for their reuse. Consider performing the necessary actions so as for the service to enable the reuse of a limited amount of data, information and knowledge consumed under open-source licenses that describe the terms and conditions for their reuse. Activities to be in place to improve this volume.
	Essential (3)	Sustainable (4)	Currently, the service enables the reuse of a limited amount of data, information and knowledge consumed under open-source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. Consider performing the necessary actions so as for the service to enable the reuse of most data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse. Activities to be in place to improve this volume.
	Sustainable (4)	Seamless (5)	Currently, the service enables the reuse of most data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse. Activities are in place to improve this volume. Consider performing the necessary actions so as for the service to enable the reuse of any data, information and knowledge consumed under open source licenses that describe the terms and conditions for their reuse.
C5.	Ad hoc (1)	Seamless (5)	Currently, the service does not consume already reusable data of public sector information Consider performing the necessary actions so as to enable the service to discover and consumes already reusable open data from open data portals or catalogues where there is a public access of data and information
C6.	Ad hoc (1)	Seamless (5)	Currently, the service does not apply such policies, although it consumes and maintains data from other services. Consider performing the necessary actions so as to enable the service to use formal standards around data preservation e.g., ISO 19165-1:2018 — Preservation of digital data and metadata

Question	Addressed Level	Next Level	Recommendation
C7.	Ad hoc (1)	Seamless (5)	<p>Currently, no such mechanism is in place although the service should have user tracing and logging applications to monitor the consumption of data, information and knowledge across a single user's journey through the service.</p> <p>Consider performing the necessary actions so as there are user tracing and logging applications in place, to monitor the consumption of data, information and knowledge across a single user's journey through the service, involving different actors and their roles, and the legal basis for consuming personal data is compliant with GDPR i.e., Art. 6(1)(e).</p>