CAMSS Assessment EIF Scenario v6.0.0

> Fields marked with * are mandatory.
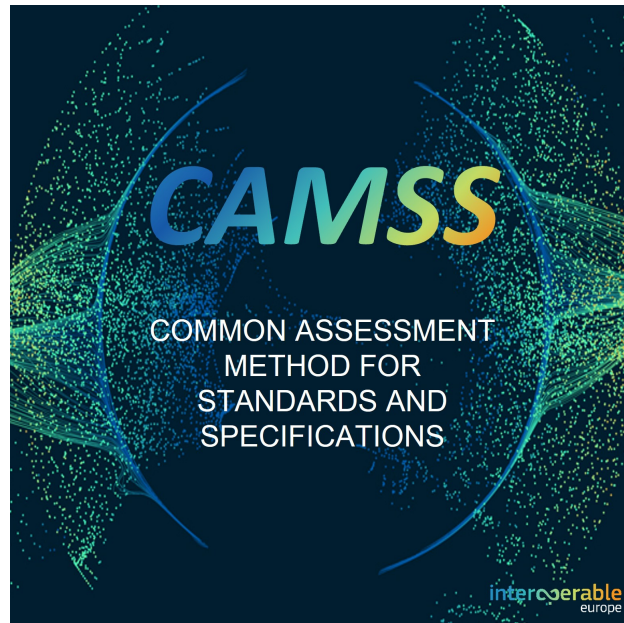
CAMSS Assessment EIF Scenario v6.0.0

Release Date: 14/04/2023

Scenario Version: 6.0.0

INTRODUCTION

EIF Scenario

The European Interoperability Framework (EIF) provides guidance to public administrations on how to improve governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and ensure that existing and new legislation do not compromise interoperability efforts.

This CAMSS Scenario allows to assess the compliance of **interoperability specifications** with the EIF. The objective of the obtained assessment is to determine the suitability of the assessed interoperability specification for the delivery of interoperable European public services.

Background

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.

The main objective of CAMSS is achieving interoperability and avoiding vendor lock-in by establishing a neutral and unbiased method for the assessment of technical specifications and standards in the field of ICT. This method will be compliant with Regulation 1025/2012 on European Standardisation.

While ICT solutions have specific characteristics at the political, legal, and organisational levels; semantic and technical interoperability are based mostly on technical specifications or standards. Within the context of the elaboration of their National Interoperability Frameworks, Member States organise the assessment of technical specifications or standards, in order to establish their national recommendations. Deciding on the recommended technical specifications or standards often calls for a resource-intensive and time-consuming assessment. In order to tackle this, the Digital Europe Programme (DEP) defines an action focused on the development of a common assessment method for standards and specifications (CAMSS).

The purpose of CAMSS is:

- to ensure that assessments of technical ICT specifications or standards and interoperability profiles are performed according to high and consistent standards;
- to ensure that assessments will contribute significantly to the confidence in the interoperability of systems implementing these specifications and profiles;
- to enable the reuse, in whole or in part, of such assessments;
- to continuously improve the efficiency and effectiveness of the assessment process for ICT technical specifications, standards, and interoperability profiles.

The expected benefits of the CAMSS are:

- Ensuring greater transparency throughout the selection of standards in the context of ICT strategies, architectures, and interoperability frameworks. This will be achieved through the establishment of a commonly agreed assessment method, assessment process, and a list of assessment attributes.

- Reducing resource and time requirements and avoiding duplication of efforts. (Partial) sharing of finalised assessments of standards and specifications.

- Allowing easier and faster assessments, and reusing the ones already performed through the creation and maintenance of a library of standards.

Your compliance level of the specification assessed depends on the scores you achieved in each section of the survey. Please see below the survey score conversion table below for guidance.

	Compliance Level				
Section	**Ad-hoc**	**Opportunistic**	**Essential**	**Sustainable**	**Seamless**
Principles setting the context for EU Actions on Interoperability	20	40	60	80	100
EIF Core Interoperability Principles	0 to 340	341 to 680	681 to 1020	1021 to 1360	1361 to 1700
EIF Principles Related to generic user needs and expectations	0 to 240	241 to 480	481 to 720	721 to 960	961 to 1200

EIF Foundation principles for cooperation among public administrations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500
EIF Interoperability Layers	0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000

The following table shows the 'compliance levels' that a specification can reach depending on the assessment score.

Compliance Level	Description
Ad-hoc	Poor level of conformance with the EIF - The specification does not cover the requirements and recommendations set out by the EIF in this area.
Opportunistic	Fair level of conformance with the EIF - The specification barely covers the requirements and recommendations set out by the European Interoperability Framework in this area.
Essential	Essential level of conformance with the EIF - The specification covers the basic aspects set out in the requirements and recommendations from the European Interoperability Framework.
Sustainable	Good level of conformance with the EIF scenario - The specification covers all the requirements and recommendations set out by the European Interoperability Framework in this area.
Seamless	Leading practice of conformance level with the EIF - The specification fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.

Contact: For any general or technical questions, please send an email to DIGIT-CAMSS@ec.europa.eu. Follow all activities related to the CAMSS on our CAMSS community page.

USER CONSENT

Disclaimer:

By no means will the Interoperability Specification assessment imply any endorsement of the EC to the assessed specification. Likewise, the use of CAMSS Assessment EIF Scenario implies that the user accepts that the EC is not liable on the assessment nor on any direct or indirect consequence/decision of such assesment.

The CAMSS Assessment EIF Scenario is based on EU Survey, by accepting the CAMSS Privacy Statement the user also accepts EU Survey Privacy Statement and the Terms of use.

* Please, fill in the mandatory* information to start the assessment

☑ *I have read and agreed to the following CAMSS Privacy Statement: here

☐ I agree to be contacted for evaluation purposes, namely to share my feedback on specific DEP solutions and actions and on the DEP programme and the European Interoperability Framework in general.

This assessment is licensed under the European Union Public License (EUPL)

IDENTIFICATION

Information on the information provider

Your Last name

Your First Name

CAMSS Team

Your Position / Role

* Your Organisation

European Commision DG - DIGIT

Your Contact phone number

* Would you like to be contacted for evaluation purposes in the context of your assessment? To see how your data is handled, please check again the Privacy statement here

In case you would like to be contacted, please select "yes" and provide your email.

○ Yes

◉ No

* Where did you learn about CAMSS?

○ DEP Programme (DEP website, DEP social media)

○ Joinup (e.g., CAMSS Collection, Joinup social media)

◉ European Commission

○ Public Administrations at national, regional or local level

○ Standards Developing Organizations (SDOs)

○ Other

If you answered "Other" in the previous question, please specify how:

Information on the specification

* Specification type

Specification: Set of agreed, descriptive, and normative statements about how a specification should be designed or made.
Standard: Specification that is largely adopted and possibly endorsed.
Application Profile: An application profile "customises one or more existing specifications potentially for a given use case or a policy domain adding an end to end narrative describing and ensuring the interoperability of its underlying specification(s)".
Family: A family is a collection of interrelated and/or complementary specifications, standards, or application profiles and the explanation of how they are combined, used, or both.

- ⦿ Specification
- ◯ Standard
- ◯ Application Profile
- ◯ Family of Specification

* Title of the specification

> Context Information Management (CIM); NGSI-LD API

* Version of the specification

> 1.7.1

* Description of the specification

> The Context Information Management API allows users to provide, consume and subscribe to context information in multiple scenarios and involving multiple stakeholders. Context information is modelled as attributes (properties and relationships) of context entities, also referred to as "digital twins", representing real-world assets. It enables close to real-time access to information coming from many different sources (not only IoT data sources).

* URL from where the specification is distributed

> https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* Name and website of the standard developing/setting organisation (SDO/SSO) of the specification

- ◯ W3C (https://www.w3.org)
- ◯ OASIS (https://www.oasis-open.org/)
- ◯ IEEE (https://standards.ieee.org/)
- ⦿ ETSI (https://www.etsi.org/)
- ◯ GS1 (https://www.gs1.fr/)
- ◯ openEHR (https://www.openehr.org/)

○ IETF (https://www.ietf.org/)

○ Other (SDO/SSO)

Contact information/contact person of the SDO

a) for the organisation

b) for the specification submitted

<div style="border: 1px solid black; min-height: 80px;"></div>

Information on the assessment of the specification

Reason for the submission, the need and intended use for the specification.

<div style="border: 1px solid black; min-height: 240px;"></div>

If any other evaluation of this specification is known, e.g. by Member States or European Commission projects, provide a link to this evaluation.

<div style="border: 1px solid black; min-height: 80px;"></div>

Considerations

Is the functional area of application for the formal specification addressing interoperability and eGovernment?

◉ YES

○ NO

Additional Information

> While Context Information Management (CIM) is a concept associated with the management of context information in the context-aware systems, NGSI-LD (Next Generation Service Interface - Linked Data) is an API specification developed by the Open Mobile Alliance (OMA) for managing context information. CIM NGSI-LD is designed to enable interoperability and standardised communication between different components in given ecosystem.

EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

This category is related to the first underlying principle ([UP](#)) of the EIF Subsidiarity and Proportionality (UP1). The basis of this principle is to ensure that the EU Actions are taken or stated to improve national actions or decisions. Specifically, it aims to know if National Interoperability Frameworks are aligned with the EIF.

Please note that some of the questions have a prefilled answer depending on the SDO. To ensure it, please see that these questions include a help message that remarks it.

Subsidiarity and Proportionality

---

* **A1 - To what extent has the specification been included in a national catalogue from a Member State whose National Interoperability Framework has a high performance on interoperability according to National Interoperability Framework Observatory factsheets?**

EIF Recommendation 1: Ensure that national interoperability frameworks and interoperability strategies are aligned with the EIF and, if needed, tailor and extend them to address the national context and needs.

This criterion assesses if the specifications have been included within the National Catalogues of Specifications of the Member States that are highly aligned with the higher level of performance in terms of interoperability.

The Digital Public Administration Factsheets use three categories to evaluate the level of National Interoperability frameworks in accordance with the EIF. The three categories are 1. CONCEPTUAL MODEL FOR INTEGRATED PUBLIC SERVICES PROVISION; 2 INTEROPERABILITY LAYERS, and 3. INTEROPERABILITY PRINCIPLES. National Interoperability Frameworks reports can be found here: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digital-public-administration-factsheets-2021

- ○ Not Answered
- ○ Not Applicable
- ● The specification has not been included within the catalogue of any Member State.
- ○ The specification has been included within the catalogue of a Member State with a lower performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a middle-lower performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a middle-upper performance than stated in the Digital Public Administration Factsheets from the NIFO.
- ○ The specification has been included within the catalogue of a Member State with a higher performance than stated in the Digital Public Administration Factsheets from the NIFO.

* Justification

> CIM NGSI-LD API is not included in any national catalogue of recommended specifications whose Member State NIF has a high performance on interoperability according to NIFO factsheets.
>
> CAMSS List of Standards:
> https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-list-standards

EIF CORE INTEROPERABILITY PRINCIPLES

In this category, elements related to the core interoperability principles (UP) are encompassed, which are: openness (UP 2), transparency (UP3), reusability (UP4), technological neutrality and data portability (UP5).

Openness

---

* A2 - Does the specification facilitate the publication of data on the web?

EIF Recommendation 2: Publish the data you own as open data unless certain restrictions apply.

Relates to the ability of the specification to publish data as open data or not.

- ◉ Not Answered
- ◉ Not Applicable
- ◉ The specification does not support the publication of data on the web.
- ◉ The specification supports the publication of data on the web but under a non-open license.
- ◉ The specification supports the publication of data on the web with an open license, but in an unstructured format.
- ◉ The specification supports publication of data on the web with an open license and in a structured, machine-readable format.
- ◉ In addition to the previous question, the specification does not require proprietary software for the processing of its related data.
- ⦿ In addition to the previous question, the specification is or incorporates open standards (e.g. W3C).

* Justification

> Annex E of CIM NGSI-LD API contains an RDF-compatible specification of NGSI-LD meta-model, which facilitates the publication of data on the web and does not require propietary software for the processing of its related data. The standardisation that CIM NGSI-LD API provides promotes interoperability and facilitates the sharing and publication of data on the web in a consistent and understandable manner.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A3 - To what extent do stakeholders have the opportunity to contribute to the development of the specification?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Relates to in which measure the different stakeholders that a specification can benefit have the opportunity to participate in the working groups focused on the development of certain specifications.

- ◉ Not Answered
- ◉ Not Applicable
- ◉ There is no information on the working group of the specification.
- ⦿ The working group is open to participation by any stakeholder but requires registration, fees, and membership approval.
- ◉ The working group is open to participation by any stakeholder but requires fees and membership approval.
- ◉ The working group is open to participation following a registration process.
- ◉ The working group is open to all without specific fees, registration, or other conditions.

* Justification

> This Technical Specification (TS) has been produced by ETSI Technical Committee Context Information Management (CIM). There are two paths to get involved in ETSI's Industry Specification Groups: as an ETSI member, or as a direct participant. The participation in the technical group is reserved to ETSI members, who require registration, fees, and membership approval. Organizations who are not members of ETSI may still participate in the ISG, attend meetings, subscribe to the e-mail lists and help build the specifications by making technical contributions. They do not have voting rights and must pay a participation fee per person per meeting day to attend ISG meetings.
>
> ETSI Technical Committee CIM: https://www.etsi.org/committee/cim
>
> Member benefits: https://www.etsi.org/images/files/membership/Membership-leaflet.pdf
>
> ETSI ISG Participation: https://www.etsi.org/how-to-get-involved-in-an-isg

* A4 - To what extent is a public review part of the release lifecycle?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

A public review consists of the public availability of the specification's draft for stakeholders to provide inputs for the improvement and fix of possible bugs.

- ○ Not Answered
- ○ Not Applicable
- ○ Specification releases do not foresee public reviews.
- ○ Public review is applied to certain releases depending on the involved changes.
- ○ All major releases foresee a public review.
- ○ All major and minor releases foresee a public review but, during which, collected feedback is not publicly visible.
- ● All major and minor releases foresee a public review during which collected feedback is publicly visible.

* Justification

> ISG CIM has a policy of openly publishing intermediate material (as soon as consensus is reached) to enhance feedback. The working group publishes an activity report anually where they indicate what they have done and future plans. Furthermore, there is an open directory listing where all changes published are reported.
>
> ETSI ISG CIM Activity Report: https://www.etsi.org/committee-activity/activity-report-cim
>
> ETSI ISG CIM Open Directory Listing: https://docbox.etsi.org/ISG/CIM/Open

* A5 - To what extent do restrictions and royalties apply to the specification's use?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Additionally to the EIF's recommendation that refers to open-source software it applies to a specification in itself at any interoperability level (legal, organisational, semantic, or technical)

○ Not Answered

○ Not Applicable

○ The specification has no public definition of its Intellectual Property Right (IPR) policy or licence.

○ Use of the specification is restricted and requires the payment of royalty fees.

○ Use of the specification is royalty-free but imposes an Intellectual Property Right (IPR) policy or licence that goes against Fair, Reasonable and Non-Discriminatory (F/RAND) principles.

⦿ Use of the specification is royalty-free and its Intellectual Property Right (IPR) policy or licence is aligned with Fair, Reasonable and Non-Discriminatory (F/RAND) principles.

* Justification

> ETSI (European Telecommunications Standards Institute) typically follows a policy of providing fair, reasonable and non-discriminatory (FRAND) licensing for its standards. This means that ETSI aims to make its standards accessible to the broadest possible audience by offering licenses on fair and reasonable terms.
>
> ETSI IPR Policy: https://www.etsi.org/intellectual-property-rights

Justification:
The ETSI IPR Policy which is part of the ETSI directives seeks to reduce the risk that our standards-making efforts might be wasted if SEPs are unavailable under Fair, Reasonable and Non-Discriminatory (FRAND) terms and conditions.
The main objective of the ETSI IPR Policy is to balance the rights and interests of IPR holders to be fairly and adequately rewarded for the use of their SEPs in the implementation of ETSI standards and the need for implementers to get access to the technology defined in ETSI standards under FRAND terms and conditions.

ETSI's intellectual property rights policy:
https://www.etsi.org/intellectual-property-rights

Additional information
In case you need to add further justification.

* A6 - To what extent is the specification sufficiently mature for its use in the development of digital solutions/services?

EIF Recommendation 4: Give preference to open specifications, taking due account of the coverage of functional needs, maturity and market support, and innovation.

Maturity related to the stability of the specification, meaning that it has been evolved enough and mechanisms for its development have been put in place (Change Management processes, monitoring, etc.)

○ Not Answered

○ Not Applicable

○ The specification has no published releases and no publicly accessible information on its development state.

○ The specification is under development without published releases.

○ The specification is under development with published preview releases.

○ The specification has published major releases but without public documentation on its supporting processes (e.g. change management and release management).

○ The specification, in addition to having major releases available, has published documentation on its supporting processes (e.g. change management and release management).

* Justification

CIM NGSI-LD API is currently in its 1.7.1 version thus, major releases have been published. In addition, public
documentation inside the specification has been published about its supporting process, specifically related to change history and issues regarding every version.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

GS CIM 009 Remarks: https://portal.etsi.org/webapp/workprogram/Report_WorkItem.asp?WKI_ID=66918

* A7 - To what extent has the specification sufficient market acceptance for its use in the development of digital solutions/services?

EIF Recommendation 4: Give preference to open specifications, taking due account of the coverage of functional needs, maturity and market support, and innovation.

Relates to how the specification is supported by the market, taking as a reference whether or not the specifications are widely used or implemented. There is an exception, and it is when the specification is used to implement innovative solutions, then, the specification should not be considered as failing to meet the requirements of the criterion.

○ Not Answered
○ Not Applicable
○ There is no information about the specification's market uptake.
○ The specification has known implementations but not enough to indicate market acceptance.
○ The specification has widespread use indicating market acceptance.
○ The specification has widespread use and relevant independent reports proving its market acceptance.
◉ The specification does not have market acceptance because it is directly used to create innovative solutions.

* Justification

Open & Agile Smart Cities & Communities (OASC) are an international network of cities and communities that partners with local administrations of all sizes and all over the world to assist them in their journey towards digital transformation. They facilitate seamless sharing and re-use of digital, data-driven solutions to avoid vendor lock-in, to reduce innovation costs and improve efficiency, thanks to open standards and APIs (application programming interfaces). One of the standards mentioned in their blog is CIM NGSI-LD API, particularly how it targets Smart City applications and government services, which is an indicative evidence of its positive market uptake.

ETSI Releases Full-Feature Specification to Support Smart Cities & Communities: https://oascities.org/etsi-release-full-feature-specification-to-support-smart-cities-communities/

* A8 - To what extent has the specification support from at least one community?

EIF Recommendation 3: Ensure a level playing field for open-source software and demonstrate active and fair consideration of using open source software, taking into account the total cost of ownership of the solution.

Related to whether or not communities exist around the specification at any level legal, organisational, semantic, or technical contributions to its enhancement and development.

- ○ Not Answered
- ○ Not Applicable
- ○ There is no community linked to the specification.
- ○ Specification support is available but as part of a closed community requiring registration and possibly fees.
- ○ There is no specific community to support the specification but there are public channels for the exchange of help and knowledge among its users.
- ○ There is a community providing public support linked to the specification but in a best-effort manner.
- ● There is a community tasked to provide public support linked to the specification and manage its maintenance.

* Justification

> CIM NGSI-LD API is developed and maintained by the European Telecommunications Standards Institute (ETSI). Its development involves contributions from industry experts and collaboration within ETSI working groups, particularly ETSI Technical Committee CIM. This standardisation body provides a foundational level of support for the ontology. ETSI takes into account the impact of users as they improve their standards and their relevancy.
>
> ETSI Technical Committee CIM: https://www.etsi.org/committee/cim

Transparency

* A9 - To what extent does the specification enable the visibility of administrative procedures, rules data, and services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification hinders visibility.
- ○ The specification neither promotes nor hinders visibility.
- ○ The specification can contribute and promote the visibility of administrations, but it is not its main purpose.
- ○ The specification can enable the visibility of administrations if combined with other specifications.
- ● The specification actively promotes and supports visibility.

* Justification

> While this specification's scope is not explicitly directed towards visibility of administrative procedures, rules data, and services, the new specification can improve it by defining a simple way to send or request data, using a serialization format (JSON-LD) which is very familiar to many developers so that rapid adoption is facilitated. NGSI-LD supports a wide range of administrative and operational tasks through its API, covering the creation, querying, subscription and management of entities and their data. This includes advanced geo-temporal queries and subscription mechanisms that notify users of changes, enabling dynamic and responsive administrative processes.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

GS CIM 008: https://www.etsi.org/deliver/etsi_gr/CIM/001_099/008/01.02.01_60/gr_CIM008v010201p.pdf

* A10 - To what extent does the specification scope comprehensibly administrative procedures, rules data, and services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification hinders comprehensibility.
- ○ The specification neither promotes nor hinders comprehensibility.
- ○ The specification can contribute and promote the comprehensibility of administrations, but it is not its main purpose.
- ○ The specification can scope the comprehensibility of administrations if combined with other specifications.
- ● The specification actively promotes and supports comprehensibility.

* Justification

A significant amount of the data collected never gets leveraged because of the challenges in interpreting data models and API standards for utilizing the data across platforms. This specification enables close to real-time (right-time) access to context/digital twin information coming from many different sources (not only IoT data sources), thus scoping comprehensibly administrative procedures, rules data, and services.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A11 - To what extent does the specification enable the exposure of interfaces to access the public administration's services?

EIF Recommendation 5: Ensure internal visibility and provide external interfaces for European public services.

Relates to ensuring availability of interfaces with internal information systems. As the EIF defines: *Public administrations operate a large number of what are often heterogeneous and disparate information systems in support of their internal processes. Interoperability depends on ensuring the availability of interfaces to these systems and the data they handle. In turn, interoperability facilitates the reuse of systems and data and enables these to be integrated into larger systems.*

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents the exposure of such interfaces.
- ○ The specification neither promotes nor hinders the exposure of such interfaces.
- ○ The specification can contribute to the exposure of interfaces, but it is not its main purpose.
- ○ The specification can enable the exposure of interfaces if combined with other specifications.
- ● The specification enables exposure of such interfaces.

* Justification

The specification actively promotes and supports visibility as it defines how such an API enables applications to perform updates on context, register context providers which can be queried to get updates on current

and historic context information and subscribe to receive notifications of context changes.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Reusability

* A12 - To what extent is the specification usable beyond the business-specific domain, allowing its usage across business domains?

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

Relates to the use of the specification beyond a specific business domain. E.g. a specification developed under the eHealth domain that can be used in other domains or not.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification is tied to a specific domain and is restricted from being implemented or used in other domains.
- ○ The specification is associated with a specific domain but its implementation and/or use in other domains is difficult.
- ○ The specification is associated with a specific domain but could be partially implemented and/or used in other domains.
- ○ The specification is associated with a specific domain but could be implemented and/or used 'as-is' to other domains.
- ● The specification is domain-agnostic, designed to be implemented and/or used in any domain.

* Justification

> The NGSI-LD Information Model prescribes the structure of context information that shall be supported by an NGSI-LD system. The NGSI-LD Information Model is defined at two levels: the foundation classes which correspond to the Core Meta-model and the Cross-Domain Ontology. The latter is a set of generic, transversal classes which are aimed at avoiding conflicting or redundant definitions of the same classes in each of the domain-specific ontologies.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Technological Neutrality and Data Portability

* A13 - Is the specification technology agnostic?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Technology-neutrality relates to not being dependent on any other ("sister") specifications, and platform-neutrality, not being dependent on any specific environment, web platform, operating system.

- ○ Not Answered

○ Not Applicable

○ NO

◉ YES

* Justification

> The specification itself is designed to be technology-agnostic as it aims to represent and exchange context information about entities in a machine-readable way, without being tied to specific implementation technologies or platforms.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A14 - Is the specification platform agnostic?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Technology-neutrality relates to not being dependent on any other ("sister") specifications, and platform-neutrality, not being dependent on any specific environment, web platform, operating system.

○ Not Answered

○ Not Applicable

○ NO

◉ YES

* Justification

> This specification is based on linked data principles and uses JSON-LD (JSON Linked Data) as its serialization format. JSON-LD is a widely supported format in web development, contributing to the platform-agnostic nature of NGSI-LD.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A15 - To what extent does the specification allow for partial implementations?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

Partial implementations refer to the application of specifications, not in their whole, but part of the requirements or features defined in the documentation.

It can also be understood as the implementation of different profiles, which is also related to a certain set of requirements depending on the context of implementation.

○ Not Answered

○ Not Applicable

○ The specification is only meant to be used as a whole.

○ The specification could be partially implemented but does not make specific provisions towards this.

○ The specification could be partially implemented but includes only guidelines towards this rather than sets of requirements.

○ The specification explicitly foresees sets of requirements that can be implemented incrementally.

◉

16

The specification explicitly foresees sets of requirements that can be implemented incrementally or separately.

* Justification

> Section 4.3.5 of the specification focuses on API Structure and Implementation Options, which highlights how it can be implemented incrementally or separately. For instance, the JSON-LD Context API is optional. The managing and serving of @contexts can also be handled by an independent, stand-alone component.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A16 - Does the specification allow customisation?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

A clear example of customizations is Core Vocabularies, which define a set of general requirements that could fit in any context and allow for the customization to fit specific business requirements in the implementation.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ NO
- ◉ YES

* Justification

> NGSI-LD API can be customised to some extent based on the specific needs and requirements of a particular application or system. While the core principles and structures of NGSI-LD are standardised, there might be some flexibility in how certain aspects of the API are implemented or extended. For example, organisations or developers may define their own data models for entities, relationships, and properties within the framework of NGSI-LD.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A17 - Does the specification allow extension?

EIF Recommendation 8: Do not impose any technological solutions on citizens, businesses, and other administrations that are technology-specific or disproportionate to their real needs.

A clear example of extension is Core Vocabularies, which are a set of general requirements fitting in different contexts that can complement each other in a sort of extensibility practice to fit specific business requirements in any implementation.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ NO
- ◉ YES

* Justification

> Below the two levels of the NGSI-LD Information Model, domain specific ontologies or vocabularies can be devised. The version of the cross-domain model proposed by the present document is a minimal one, aimed

at defining the classes used in this release of the API specification. It has been extended by other work items with classes defining extra concepts such as mobile vs. stationary entities, instantaneous vs. static properties, etc.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A18 - To what extent does the specification enable data portability between systems/applications supporting the implementation or evolution of European public services?

EIF Recommendation 9: Ensure data portability, namely that data is easily transferable between systems and applications supporting the implementation and evolution of European public services without unjustified restrictions, if legally possible.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ The specification prevents or does not support data portability.
- ⊙ The specification neither addresses data portability nor prevents it.
- ⊙ The specification addresses data portability but without specific provisions to enable it.
- ⊙ The specification introduces certain aspects that can contribute to enabling data portability.
- ⦿ The specification explicitly addresses and enables data portability.

* Justification

CIM NGSI-LD API can contribute to improving data portability in various ways. It defines a standardised way to represent entities, their properties, and relationships, which makes it easier to understand and exchange data consistently across different systems and applications. Moreover, the use of JSON-LD's @context enables the definition of fully qualified names (URIs) for terms used in data payloads, which helps in disambiguating the meaning of the data when shared between different systems. Consequently, this standardisation promotes interoperability by ensuring that systems using the API can exchange data seamlessly.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS

This category includes all underlying principles from the EIF which are related to user needs. Principles included here are user-centricity (UP6), inclusion and accessibility (UP7), security and privacy (UP8), and multilingualism (UP9).

User-Centricity

* A19 - To what extent does the specification allow relevant information to be reused when needed?

EIF Recommendation 13: As far as possible under the legislation in force, ask users of European public services once-only and relevant-only information.

The Once-Only Principle is related to making the operations or transactions between administrations and stakeholders more efficient. It implies avoiding the provision of certain data or information twice or more when this information is already available for public administrations.

First European Data Space, Once Only Technical System (OOTS): https://ec.europa.eu/digital-building-blocks/wikis/display/DIGITAL/Once+Only+Technical+System

Additional and relevant information can be found here: https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/Once+Only+Principle

- ○ Not Answered
- ○ Not Applicable
- ○ Information needs to be provided whenever this is needed.
- ○ There is limited reuse of provided information.
- ● Provided information is reused, but this is not consistently done.
- ○ Provided information is reused, but not in all scenarios.
- ○ Information is provided once-only and reused as needed.

* Justification

> While CIM NGSI-LD API does not mention any specific action to support the reuse of relevant information when needed, the principle of reuse and alignment of concepts and relationships are embedded in CIM NGSI-LD API, Linked Data principles can be applied to create a web of interconnected and reusable data, which aligns with the goal of the Once-Only Principle to avoid redundant data collection.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Inclusion and Accessibility

* A20 - To what extent does the specification enable the e-accessibility?

EIF Recommendation 14: Ensure that all European public services are accessible to all citizens, including persons with disabilities, the elderly, and other disadvantaged groups. For digital public services, public administrations should comply with e-accessibility specifications that are widely recognised at the European or international level.

Examples of specifications addressing e-accessibility are, for instance, WAI-ARIA (https://www.w3.org/WAI/standards-guidelines/aria/) included within Web Content Accessibility Guidelines (WCAG) Overview (https://www.w3.org/WAI/standards-guidelines/wcag/).

- ○ Not Answered
- ● Not Applicable
- ○ The specification prevents or does not support e-accessibility.
- ○ The specification neither addresses e-accessibility nor prevents it.
- ○ The specification can contribute and promote e-accessibility, but it is not its main purpose.
- ○ The specification can enable e-accessibility if combined with other specifications.
- ○ The specification explicitly addresses and enables e-accessibility.

* Justification

> The purpose of this CIM NGSI-LD API is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Privacy

---

* A21 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

Securing the right to the protection of personal data, by respecting the applicable legal framework for the large volumes of personal data of citizens, held and managed by Public administrations.

- ◎ Not Answered
- ◎ Not Applicable
- ◎ The specification hinders the protection of personal data.
- ◎ The specification does not address the protection of personal data but neither prevents it.
- ◎ The specification includes certain data protection considerations but without being exhaustive.
- ◎ The specification explicitly addresses data protection but without referring to relevant regulations.
- ⦿ The specification explicitly addresses data protection and its alignment to relevant regulations.

* Justification

> One of the supporting documents of this CIM NGSI-LD API is ETSI GR CIM 007, which identifies the security and privacy aspects that are relevant when building systems based on the NGSI-LD API and the NGSI-LD information model. In this case, the specification is aligned with the General Data Protection Regulation (Regulation (EU) 2016/679, abbreviated GDPR) is a European Union regulation on information privacy in the European Union (EU) and the European Economic Area (EEA).
>
> GR CIM 007: https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf
>
> GDPR: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016R0679

* A22 - Does the specification provide means for restriction of access to information/data?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The principle of confidentiality defines that only the sender and the intended recipient(s) must be able to create the content of a message. Confidentiality have compromised if an unauthorized person is able to create a message.

- ◎ Not Answered
- ◎

Not Applicable

○ The specification prevents or does not support the implementation of confidentiality mechanisms/features.

○ The specification neither addresses confidentiality nor prevents it.

○ The specification addresses confidentiality but without specific provisions to enable it.

○ The specification introduces certain aspects that can contribute to enabling confidentiality.

◉ The specification explicitly addresses and enables the implementation of features to guarantee confidentiality.

* Justification

> Section 6.4 of the specification explains that in many instances data confidentiality is afforded by the application of encryption to content, although techniques such as path segregation (e.g. VPNs) and the use of secure enclaves in data processing are other measures that can be applied to give assurance of data confidentiality.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

* A23 - Is the specification included in any initiative at European or National level covering privacy aspects?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Securing the right to the protection of personal data, by respecting the applicable legal framework for the large volumes of personal data of citizens, held and managed by Public administrations.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

For example, the ETSI (Electronic Signatures and Infrastructures) family of specifications are part of the trust establishment of the eDelivery solution, ensuring that its implementation is salient to guarantee security and privacy.

○ Not Answered

◉ Not Applicable

○ Yes, but at national or regional level.

○ Yes, at European level.

* Justification

> The specification's purpose is not related to privacy. Therefore, has not been found included in any initiative neither at European nor on national level covering privacy aspects.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Security

Data processing and exchange

* A24 - To what extent does the specification enable the secure exchange of data?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

This relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support the secure and trustworthy exchange of data.
- ● The specification introduces certain aspects that can contribute to enabling the secure exchange of data.
- ○ The specification addresses data security and trustworthy data exchange but does not foresee specific provisions to enable them.
- ○ The specification addresses data security and trustworthy data exchange but specific provisions to enable them are limited.
- ○ The specification explicitly addresses and enables the secure and trustworthy exchange of data.

* Justification

> The standardised terms and concepts within CIM NGSI-LD API can facilitate clearer communication and understanding between systems, which is beneficial for secure data exchange protocols. When different entities use the same standardised terms and classifications, it can reduce ambiguity and errors during data transmission, contributing to more secure and accurate exchanges.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

* A25 - To what extent does the specification enable the secure processing of data?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Relates to the actions that Public Administrations establish concerning sensitive information for the proper delivery of public services. The different actions imply the reception, classification, and exchange of such information.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support the secure and trustworthy processing of data.
- ● The specification introduces certain aspects that can contribute to enabling the secure processing of data.
- ○ The specification addresses data security and trustworthy data processing but does not foresee specific provisions to enable them.
- ○ The specification addresses data security and trustworthy data processing but specific provisions to enable them are limited.
- ○ The specification explicitly addresses and enables the secure and trustworthy processing of data.

* Justification

> One of the supporting documents of this specification is ETSI GR CIM 007, which identifies the security and privacy aspects that are relevant when building systems based on the NGSI-LD API and the NGSI-LD information model. In this case, the use of secure enclaves is mentioned when talking about data processing.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

Data authenticity

* A26 - To what extent the specification guarantees the authenticity and authentication of the roles agents involved in the data transactions?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Authentication defines that users are who they request to be. Availability defines that resources are available by authorized parties; "denial of service" attacks, which are the subject matter of national news, are attacks against availability. The concerns of information security professionals are access control and Nonrepudiation. Authorization defines the power that it can have over distinguishing authorized users from unauthorized users, and levels of access in-between. Authenticity defines the constant checks that it can have to run on the system to make sure sensitive places are protected and working perfectly."

- ◉ Not Answered
- ◉ Not Applicable
- ◉ The specification prevents or does not support the implementation of authentication features.
- ◉ The specification neither addresses authenticity nor prevents it.
- ◉ The specification addresses the implementation of authenticity features but without specific provisions to enable it.
- ◉ The specification introduces certain aspects that can contribute to enabling authenticity features.
- ⦿ The specification explicitly addresses and enables the implementation of authenticity features.

* Justification

> One of the supporting documents of this specification is ETSI GR CIM 007, which identifies the security and privacy aspects that are relevant when building systems based on the NGSI-LD API and the NGSI-LD information model. Mechanisms for giving proof of authentication are described in ETSI TS 102 165-2, and in the context of attribute based cryptography in ETSI TR 103 719. In the NGSI-LD API context authentication is used in part to verify the identity of each actor in the NGSI-LD API system.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf
>
> ETSI TS 102 165-2: https://www.etsi.org/deliver/etsi_ts/102100_102199/10216502/04.02.01_60/ts_10216502v040201p.pdf
>
> ETSI TR 103 719:
> https://www.etsi.org/deliver/etsi_tr/103700_103799/103719/01.01.01_60/tr_103719v010101p.pdf

Data integrity

* A27 - To what extent information is protected against unauthorised changes?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

Integrity defines that information is protected against unauthorized changes that are not perceptible to authorized users; some incidents of hacking compromise the integrity of databases and multiple resources.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification prevents or does not support the implementation of data integrity mechanisms /features.
- ○ The specification neither addresses data integrity nor prevents it.
- ○ The specification addresses data integrity but without specific provisions to enable it.
- ○ The specification introduces certain aspects that can contribute to enabling data integrity.
- ● The specification explicitly addresses and enables the implementation of features to guarantee data integrity.

* Justification

> Section 6.6 of the specification explains that in the context of the CIA paradigm the role of integrity is to give assurance to user B that on receipt of data from user A that what he receives is exactly as sent by user A and that the data has not been manipulated by user E. In addition, there is a close relationship between integrity and availability with the defining characteristic that the system delivering data is complete and has itself not been corrupted nor manipulated by user E. Integrity is therefore a key characteristic of non-repudiation services.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

Data accuracy

* A28 - To what extent does the specification ensure and enable data processing accuracy?

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The accuracy and completeness of information systems and the data supported within the systems should be an administration concern. The information which has been inappropriately changed or destroyed (by external or employees) can impact the organization. Each organization should make controls to provide that data entered into and saved in its automated files and databases are complete and accurate and provide the accuracy of disseminated data.

- ○ Not Answered
- ● Not Applicable
- ○ The specification prevents or does not support the implementation of data accuracy mechanisms/features.
- ○ The specification neither addresses data accuracy nor prevents it.
- ○ The specification addresses data accuracy but without specific provisions to enable it.
- ○ The specification introduces certain aspects that can contribute to enabling data accuracy.
- ○

The specification explicitly addresses and enables the implementation of features to guarantee data accuracy.

* Justification

> The specification itself does not explicitly include mechanisms for ensuring or enabling data processing accuracy. The responsibility for ensuring data processing accuracy lies with the implementers and the systems that use it.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

Access Control

* **A29 - To what extent does the specification provide an access control mechanism?**

EIF Recommendation 15: Define common security and privacy framework and establish processes for public services to ensure secure and trustworthy data exchange between public administrations and in interactions with citizens and businesses.

The principle of access control decides who must be able to access what. For example, it must be able to define that user A can view the data in a database, but cannot refresh them. User A can be allowed to create updates as well. An access-control mechanism can be installed to provide this. Access control is associated with two areas including role management and rule management. Role management applies on the user side, whereas rule management targets the resources side.

- ⊙ Not Answered
- ⊙ Not Applicable
- ⊙ The specification does not provide access control mechanisms.
- ⊙ The specification neither addresses nor prevents access control mechanisms.
- ⊙ The specification addresses access control mechanisms but without specific provisions to enable them.
- ⊙ The specification introduces certain aspects that can contribute to enabling access control mechanisms.
- ⦿ The specification explicitly foresees a set of requirements for the enabling of access control mechanisms.

* Justification

> Section 6.4 of the specification is dedicated to the Authorization and Access Control. The role of authorization in the context of access control is to ensure that a custodian can verify that a requestor is allowed to perform a requested action. Access may be restricted by requestor identity, by requestor location, by requestor role, by date and time and so forth. As part of the access control policy the custodian may require that the requestor proves she has authorization. Authorization may be granted directly based on attributes of the requestor or may be granted only after 3rd party verification of authority.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

Multilingualism

* A30 - To what extent could the specification be used in a multilingual context?

EIF Recommendation 16: Use information systems and technical architectures that cater to multilingualism when establishing a European public service. Decide on the level of multilingualism support based on the needs of the expected users.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification cannot be used in a multilingual context.
- ○ The specification could be used in a multilingual context but has no specific provisions to facilitate this.
- ● The specification foresees limited support for multilingualism.
- ○ The specification foresees support for multilingualism but this is not complete.
- ○ The specification is designed to fully support multilingualism.

* Justification

> Since internationalization is not core to context information management, any direct support within NGSI-LD systems is limited. Annex G of the specification proposes a series of best practices for maintaining, querying and displaying interoperable internationalized data. For instance, there are specific provisions to associate an Entity or a Property with a Natural Language.
>
> ETSI Context Information Management (CIM); Security and Privacy:
> https://www.etsi.org/deliver/etsi_gr/CIM/001_099/007/01.01.02_60/gr_cim007v010102p.pdf

EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS

This category includes the criteria aiming to evaluate principles related to collaboration amongst public organisations, business, and citizens. This is related to the underlying principles of administrative simplification (UP10), preservation of information (UP11), and assessment of effectiveness and efficiency (UP12).

Administrative Simplification

* A31 - Does the specification simplify the delivery of European public services?

EIF Recommendation 17: Simplify processes and use digital channels whenever appropriate for the delivery of European public services, to respond promptly and with high quality to users' requests and reduce the administrative burden on public administrations, businesses and citizens.

A positive answer would cover every specification easing digitalisation and administratice simplification by for example helping an Identification service access a Digital Portfolo with citizens information.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ● YES

* Justification

> CIM NGSI-LD API can simplify the delivery of European public services across different domains. By providing a simple way to send or request data, with its context such as the meaning, relationships, source or licensing of that data, etc. transmitted together, an efficient way of exchanging and communicating data on different platforms, improving processes related to the delivery of public services is possible.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A32 - Does the specification enable digital service delivery channels?

EIF Recommendation 17: Simplify processes and use digital channels whenever appropriate for the delivery of European public services, to respond promptly and with high quality to users' requests and reduce the administrative burden on public administrations, businesses and citizens.

A positive answer would cover that a specification eases or provides better means of delivering public services as a good asset for digitalisation and administrative simplification. For instance, a specification directly related to API performance easing and improving the delivery of a Digital Public Service through an API.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ● YES

* Justification

> CIM NGSI-LD API's API enables applications to perform updates on context, register context providers which can be queried to get updates on context, query information on current and historic context information and subscribe to receive notifications of context changes. All of these actions could improve digital service delivery channels greatly.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Preservation of Information

* A33 - To what extent does the specification enable the long-term preservation of data/information /knowledge (electronic records included)?

EIF Recommendation 18: Formulate a long-term preservation policy for information related to European public services and especially for information that is exchanged across borders.

Relates to the capacity of the specification to contribute to the long-term preservation of information.

- ○ Not Answered
- ● Not Applicable
- ○ The specification prevents or does not support long-term preservation.
- ○ The specification neither addresses the long-term preservation nor prevents it.
- ○ The specification addresses the long-term preservation of electronic resources (information, data, etc) in a limited manner.
- ○ The specification addresses long-term preservation of electronic resources (information, data, etc), but not in a complete manner.
- ○ The specification explicitly addresses and enables long-term preservation.

> CIM NGSI-LD API is not related to enabling the long-term preservation of data (electronic records included). Therefore, this criterion is considered not applicable to this specification.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Assessment of Effectiveness and Efficiency

---

* A34 - To what extent are there assessments of the specification's effectiveness?

EIF Recommendation 19: Evaluate the effectiveness and efficiency of different interoperability solutions and technological options considering user needs, proportionality, and balance between costs and benefits.

Related to the degree to which the specification is effective while using it. There are indirect methods to determine that the specification is effective, for instance when a solution that has an effective performance and uses the specification to deliver the expected service.

Effectiveness: *the extent to which the specifications reach the expected action according to its purpose.*

- ○ Not Answered
- ○ Not Applicable
- ○ There are no such assessments.
- ○ There are such assessments that indirectly address the specification.
- ○ There are such assessments evaluating digital solutions' effectiveness that involve the specification.
- ○ There are such assessments addressing the specification and its effectiveness together with other specifications.
- ● There are such assessments directly addressing the specification.

* Justification

> The effectiveness of CIM NGSI-LD API is often evaluated through various means, including practical implementations and pilot projects. For instance, a 2021-paper by ETSI is intended to complement the NGSI-LD information model normative specification, it is also intended to be complementary to the NGSI-LD Primer, which mainly explains how to use the NGSI-LD API in a more "hands-on" practical way, especially for the initial use cases considered location, which demonstrates the effectiveness of CIM NGSI-LD API.
>
> Guidelines for Modelling with NGSI-LD:
> https://www.researchgate.net/profile/Gilles-Privat/publication
> /349928709_Guidelines_for_Modelling_with_NGSI-LD_ETSI_White_Paper/links
> /6047dca2299bf1e07869576b/Guidelines-for-Modelling-with-NGSI-LD-ETSI-White-Paper.pdf

* A35 - To what extent are there assessments of the specification's efficiency?

EIF Recommendation 19: Evaluate the effectiveness and efficiency of different interoperability solutions and technological options considering user needs, proportionality, and balance between costs and benefits.

Related to the good use of time and resources not wasted unnecessarily by a specification being used. There are

indirect methods to determine that the specification is efficient, for instance, a solution delivering a service with an efficient performance that uses the specification.

Efficiency: times and means needed to achieve the results using the specification.

○ Not Answered
○ Not Applicable
○ There are no such assessments.
○ There are such assessments that indirectly address the specification.
○ There are assessments evaluating digital solutions' efficiency that involve the specification.
○ There are such assessments addressing the specification and its efficiency together with other specifications.
◉ There are such assessments directly addressing the specification.

* Justification

> Assessments of the efficiency of CIM NGSI-LD API primarily involve evaluating the performance, scalability, and practicality of implementations. A 2021-paper focuses on enhancing the semantic capabilities of the oneM2M architecture by providing solid contributions to the oneM2M standards. During the study phase where possible approaches to a discovery and data aggregation solution are analysed with respect to the use cases and requirements, there are also looks to the query and discovery mechanisms already available, starting from the ones defined by CIM NGSI-LD API.
>
> ETSI SmartM2M Technical Report 103716: https://inria.hal.science/hal-03261059/document

EIF INTEROPERABILITY LAYERS

This category is aligned with the related interoperability models described in the EIF and apply to all the public services. It includes six layers: interoperability governance, integrated public service governance, legal interoperability, organisational interoperability, semantic interoperability, and technical interoperability covered by criteria A2 to A10 under the Openness category.

Interoperability Governance

* A36 - Is the (or could it be) specification mapped to the European Interoperability Architecture (EIRA)?

EIF Recommendation 20: Ensure holistic governance of interoperability activities across administrative levels and sectors.

The EIRA defines the required capabilities for promoting interoperability as a set of Architecture Building Blocks (ABBs). The association of specification to these ABBs means the capacity to enable Legal, Organisational, Semantic, or Technical aspects needed for the development of interoperable public services. This association can be taken from ELIS the EIRA Library of Interoperability Specifications (ELIS) but also can be established ad-hoc.

○ Not Answered
○ Not Applicable
○ NO
◉ YES

* Justification

> At the time of elaborating this assessment, this specification is included in the "Data Space Connector Consumer" and "Data Space Connector Provider" ABB from the "Technical-Application" View of the current European Library Of Specifications (ELIS).
>
> EIRA Library of Interoperability Specifications (ELIS):
> https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elis/release/600

* A37 - To what extent can the conformance of the specification's implementations be assessed?

EIF Recommendation 21: Put in place processes to select relevant standards and specifications, evaluate them, monitor their implementation, check compliance and test their interoperability.

Relates to the implementation of the specification being conformant with the requirements established in the text of the specification. There are different methods to ensure the conformance of an implementation: check manually if the implementation meets the requirements in the specification text (if any), use additional methods or resources provided to this purpose or use specific tools provided by the SDO developing the specification.

- ○ Not Answered
- ○ Not Applicable
- ○ The specification does not include a definition of conformance.
- ○ The specification defines conformance but not as a set of measurable requirements.
- ● The specification defines conformance as requirements that can be measured manually.
- ○ The specification defines conformance as requirements with resources to enable automated measurement.
- ○ The specification is complemented by a conformance testing platform to allow testing of implementations.

* Justification

> ETSI, the SDO/SSO that created and currently maintains the specification, explains that most ETSI test specifications are developed according to the well-proven methodology defined in ISO/IEC 9646. This standard, which covers the entire test development process, provides an excellent basis for the production of high-quality test frameworks and specifications.
>
> ETSI Conformance Testing:
> https://portal.etsi.org/Services/Centre-for-Testing-Interoperability/ETSI-Approach/Conformance
>
> ISO/IEC 9646: https://www.iso.org/standard/17473.html

* A38 - Is the specification recommended by a European Member State?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

Recommended specifications are these specifications that the Member States provide as examples for the implementation of certain digital public services or for being used when procuring these digital public services or solutions.

- ○ Not Answered
- ○ Not Applicable
- ● NO
- ○

YES

* Justification

> The Open Data initiative of the Government of Spain mentions the use of the standard NGSI-LD data exchange protocol/API and the extended Smart Data Models for the adoption of the information model defined by the IDS architecture. This is crucial for the technical convergence of the Data Spaces Business Alliance (DSBA).
>
> Technical Convergence DSBA: https://datos.gob.es/en/blog/technical-convergence-dsba
>
> Data Space Business Alliance (DSBA): https://data-spaces-business-alliance.eu/

* A39 - Is the specification selected for its use in a European Cross-border project/initiative?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

The European Commission set up a process for the identification and assessment of specifications for its use in the development of IT solutions and also when procuring them. Find here the commission implementing decisions that include the specifications identified by the European Commission: https://ec.europa.eu/growth/single-market/european-standards/ict-standardisation/ict-technical-specifications_en

Additionally, there could be other situations where a specification can be selected for European projects or initiatives out of the scope of the above-mentioned context. These specifications can be considered positively in this assessment.

- ○ Not Answered
- ○ Not Applicable
- ○ NO
- ● YES

* Justification

> CIM NGSI-LD API is included in the extension of FIWARE to support Linked Data (LD) according to One Network for Europe, a project funded through the EU's eighth Framework Programme Horizon 2020, who aims to provide a seamless integration of all the actors in the electricity network across Europe to create the conditions for a synergistic operation that optimizes the overall energy system while creating an open and fair market structure.
>
> Extended Interoperability and Management with FIWARE D6.3:
> https://www.onenet-project.eu//wp-content/uploads/2023/09/OneNet_D6.3_v1.0.pdf

* A40 - Is the specification included in an open repository/catalogue of standards at national level?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

- ○ Not Answered
- ○ Not Applicable

○ NO
○ YES

* Justification

> There are no Member States recommending CIM NGSI-LD API in their ICT National Catalogues.
>
> CAMSS List of Standards:
> https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss
> /camss-list-standards

* A41 - Is the specification included in an open repository/catalogue of standards at European level?

EIF Recommendation 23: Consult relevant catalogues of standards, specifications, and guidelines at the national and EU level, in accordance with your NIF and relevant DIFs, when procuring and developing ICT solutions.

EIF Recommendation 6: Reuse and share solutions, and cooperate in the development of joint solutions when implementing European public services.

○ Not Answered
○ Not Applicable
○ NO
⦿ YES

* Justification

> CIM NGSI-LD API is included in EU Observatory for ICT Standardisation. EUOS thoroughly monitors the global Standardisation landscape, providing a comprehensive and accurate coverage of the most important ICT Standards, Working Groups and Technical Committees that affect the key ICT topics of the Digital Single Market and the EU ICT Rolling Plan for Standardisation. Furthermore, GS CIM 009 is also included in the Data Space Support Center (DSSC) standards catalogue.
>
> Context Information Management (CIM); NGSI-LD API: https://standict.eu/standards-repository/context-information-management-cim-ngsi-ld-api
>
> DSSC Data Interoperability: https://dssc.eu/space/SE1/185794608
> /Data+Interoperability+standards+and+technologies+landscape

Justification:
ETSI is a European standards development organisation, and as such, all the specifications developed within the organisation are available and can be accessed through its website repository.

ETSI standards repository:
https://www.etsi.org/standards#page=1&search=ETSI%20TS%20319%
20422&title=1&etsiNumber=1&content=1&version=0&onApproval=1&published=1&withdrawn=1&historical=1&isCurrent=1&superseded=1&startDate=1988-01-15&endDate=2022-07-
25&harmonized=0&keyword=&TB=&stdType=&frequency=&mandate=&collection=&sort=1

Additional information:
In case ypu need to add further clarifications.

Legal Interoperability

* A42 - Is the specification a European Standard?

EIF Recommendation 27: Ensure that legislation is screened by means of 'interoperability checks', to identify any barriers to interoperability. When drafting legislation to establish a European public service, seek to make it consistent with relevant legislation, perform a 'digital check', and consider data protection requirements.

European Standards are those standards developed by certain organisations dedicated to this purpose. CEN, CENELEC, and ETSI are the principal organisations and all of them are developing their standards under the basis of meeting the requirements established within the European Standardisation Regulation. CEN-CENELEC homepage: https://www.cencenelec.eu/

- ◯ Not Answered
- ◯ Not Applicable
- ◯ NO
- ◉ YES

* Justification

> ETSI is a European standards development organisation, and as such, all the specifications developed within the organisation are available and can be accessed through its website repository. Therefore, CIM NGSI-LD API is a European Standard.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Organisational Interoperability

* A43 - Does the specification facilitate the modelling of business processes?

EIF Recommendation 28: Document your business processes using commonly accepted modelling techniques and agree on how these processes should be aligned to deliver a European public service.

- ◯ Not Answered
- ◯ Not Applicable
- ◯ NO
- ◉ YES

* Justification

> While the specification itself is not explicitly intended for modelling business processes, it can facilitate its designing process as it models "real world entities", its properties and relationships in a standardised way.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

* A44 - To what extent does the specification facilitate organisational interoperability agreements?

EIF Recommendation 29: Clarify and formalise your organisational relationships for establishing and operating European public services.

Relates to specifications' capacities to help and ease the creation and formalisation of Interoperability agreements. E.g. Memorandums of Understanding (MoUs), Services Level Agreements (SLAs).

- ○ Not Answered
- ○ Not Applicable
- ○ The specification's definition hinders the drafting of such agreements.
- ○ The specification makes no provisions that would facilitate the drafting of such agreements.
- ○ The specification defines certain elements to facilitate such agreements.
- ○ The specification defines most elements to facilitate such agreements.
- ● The specification explicitly identifies all elements to be used in drafting such agreements.

* Justification

> The use of the shared standard of CIM NGSI-LD API can significantly reduce complexities and barriers in establishing interoperable systems across organisational boundaries. The specification can be used to maintain a single consistent API for Context Information Management, particularly for Smart City applications and government services, which can help when drafting agreements related to that.
>
> GS CIM 009: https://www.etsi.org/deliver/etsi_gs/CIM/001_099/009/01.07.01_60/gs_CIM009v010701p.pdf

Semantic Interoperability

* A45 - Does the specification encourage the creation of communities along with the sharing of their data and results in national and/or European platforms?

EIF Recommendation 32: Support the establishment of sector-specific and cross-sectoral communities that aim to create open information specifications and encourage relevant communities to share their results on national and European platforms.

Relates to specifications that are narrowly related to the data/information being exchanged, its format, and structure. It would allow a common method/mechanism to improve its reuse and exchange removing possible limitations. An example of it could be RDF, which is used to describe information and its metadata using specific syntax and serialisation.

- ○ Not Answered
- ○ Not Applicable
- ○ Yes, but at national or regional level.
- ● Yes, at European platforms.

* Justification

> CIM NGSI-LD API is maintained by the European Telecommunications Standards Institute (ETSI), a European
> Standards Organization (ESO) that is recognised as the regional standards body dealing with telecommunications, broadcasting and other electronic communications networks and services.
> Furthermore, the specification is mentioned in the Artificial intelligence section from Joinup's 2024 ICT

Rolling Plan, fact that proves that it is of current relevance and has significant implications for interoperability. This naturally attracts the attention of developer communities, generating debates and discussions to explore its effective implementation, impact and possible improvements.

ETSI: https://www.etsi.org/about

GS CIM in ICT Rolling plan:
https://joinup.ec.europa.eu/collection/rolling-plan-ict-standardisation/artificial-intelligence-rp2024

Useful links

CAMSS Joinup Page (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss)

CAMSS Library of Assessments (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-assessments-library)

CAMSS Assessment EIF Scenario - User Guide (https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-assessment-eif-scenario/camss-assessment-eif-scenario-quick-user-guide)

Contact

CAMSS@everis.com

CAMSS Assessment EIF Scenario v6.0.0 - Results

CAMSS Assessment Result

Thank you for your contribution.

The score of the specification related to the scenario under which it is being evaluated depends on the scores achieved in each section of the survey. Please see the example below for guidance.

The following table shows the 'compliance levels' that a specification can reach depending on the assessment score.

EIF Scenario Compliance Level Conversion Table

Section	Ad-hoc	Opportunistic	Compliance Level Essential	Sustainable	Seamless
Principles setting the context for EU Actions on Interoperability	20	40	50	80	90
EIF Core Interoperability Principles	0 to 340	341 to 681	681 to 1020	1021 to 1360	1361 to 1700
EIF Principles Related to generic user needs and expectations	0 to 240	241 to 480	481 to 720	721 to 960	961 to 1200

EIF Foundation principles for cooperation among public administrations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500
EIF Interoperability Layers	0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000

The table below expresses the range of the score per section. When used in combination with the table above, the total score can be interpreted. See the example below for guidance.

Section Compliance Conversion Table

Compliance Level	Description
Ad-hoc	Poor level of conformance with the EIF - The specification does not cover the requirements and recommendations set out by the EIF in this area.
Opportunistic	Fair level of conformance with the EIF - The specification barely covers the requirements and recommendations set out by the European Interoperability Framework in this area.
Essential	Essential level of conformance with the EIF - The specification covers the basic aspects set out in the requirement and recommendations from the European Interoperability Framework.
Sustainable	Good level of conformance with the EIF scenario - The specification covers all the requirements and recommendations set out by the European Interoperability Framework in this area.
Seamless	Leading practice of conformance level with the EIF - The specification fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.

Example – How to find the final Compliance Level

Using the score reached after the initial assessment, the interpretation can be made as follows.

1. In the summary table, observe the score for each section, e.g. EIF Core Interoperability Principles has 1800 points.

2. In the middle table – the Section Compliance Conversion Table – see that this number correlates to a column. In our example, the 1800 points of Core Interoperability Principles fall in the EIF Core Interoperability Principles row, and '1441 to 1800' point range, placing it in the column 'Compliance **Seamless**'.

3. Next, in the top table – the EIF Scenario Compliance Level Conversion Table – we see Compliance Level "**Seamless**", and from its description that the specification for the EIF Core Interoperability Principles 'fully covers the requirements and recommendations set out by the European Interoperability Framework in this area.'.

For additional calculation of the assessment strength, please follow the instruction provided in the User Guide, found [here](#).

Summary

Your Score   3960

Maximum Score   4502

Section	Score for this Section	
EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY	20/100	
EIF CORE INTEROPERABILITY PRINCIPLES	1640 /1701	
EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS	1000 /1200	
EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS	500 /500	
EIF INTEROPERABILITY LAYERS	800 /1001	

Scores by Question

EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

Score for this Section: 20/100

A1 - To what extent has the specification been included in a national catalogue from a Member State whose National Interoperability Framework has a high performance on interoperability according to National Interoperability Framework Observatory factsheets?

Your answer ❌ The specification has not been included within the catalogue of any Member State.

20 out of 100 points

EIF CORE INTEROPERABILITY PRINCIPLES

Score for this Section: 1640/1701

A2 - Does the specification facilitate the publication of data on the web?

Your answer ✔ In addition to the previous question, the specification is or incorporates open standards (e.g. W3C).

100 out of 100 points

A3 - To what extent do stakeholders have the opportunity to contribute to the development of the specification?

Your answer ✔ The working group is open to participation by any stakeholder but requires registration, fees, and membership approval.

40 out of 100 points

A4 - To what extent is a public review part of the release lifecycle?

Your answer ✔ All major and minor releases foresee a public review during which collected feedback is publicly visible.

100 out of 100 points

A5 - To what extent do restrictions and royalties apply to the specification's use?

Your answer ✔ Use of the specification is royalty-free and its Intellectual Property Right (IPR) policy or licence is aligned with Fair, Reasonable and Non-Discriminatory (F/RAND) principles.

100 out of 100 points

Additional information

Your answer

0 out
of 1
points

A6 - To what extent is the specification sufficiently mature for its use in the development of digital solutions/services?

Your
answer

✔ The specification, in addition to having major releases available, has published documentation on its supporting processes (e.g. change management and release management).

100
out of
100
points

A7 - To what extent has the specification sufficient market acceptance for its use in the development of digital solutions/services?

Your
answer

✔ The specification does not have market acceptance because it is directly used to create innovative solutions.

100
out of
100
points

A8 - To what extent has the specification support from at least one community?

Your
answer

✔ There is a community tasked to provide public support linked to the specification and manage its maintenance.

100
out of
100
points

A9 - To what extent does the specification enable the visibility of administrative procedures, rules data, and services?

Your
answer

✔ The specification actively promotes and supports visibility.

100
out of
100
points

A10 - To what extent does the specification scope comprehensibly administrative procedures, rules data, and services?

Your
answer

✔ The specification actively promotes and supports comprehensibility.

100
out of
100
points

A11 - To what extent does the specification enable the exposure of interfaces to access the public administration's services?

Your answer	✔ The specification enables exposure of such interfaces.	100 out of 100 points	

A12 - To what extent is the specification usable beyond the business-specific domain, allowing its usage across business domains?

Your answer	✔ The specification is domain-agnostic, designed to be implemented and/or used in any domain.	100 out of 100 points	

A13 - Is the specification technology agnostic?

Your answer	✔ YES	100 out of 100 points	

A14 - Is the specification platform agnostic?

Your answer	✔ YES	100 out of 100 points	

A15 - To what extent does the specification allow for partial implementations?

Your answer	✔ The specification explicitly foresees sets of requirements that can be implemented incrementally or separately.	100 out of 100 points	

A16 - Does the specification allow customisation?

Your answer	✔ YES	100 out of 100 points	

A17 - Does the specification allow extension?

Your answer	✔ YES	100 out of 100 points	

A18 - To what extent does the specification enable data portability between systems/applications supporting the implementation or evolution of European public services?

Your answer	✔ The specification explicitly addresses and enables data portability.	100 out of 100 points

EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS

Score for this Section: 1000/1200

A19 - To what extent does the specification allow relevant information to be reused when needed?

Your answer	✔ Provided information is reused, but this is not consistently done.	60 out of 100 points

A20 - To what extent does the specification enable the e-accessibility?

Your answer	✔ Not Applicable	100 out of 100 points

A21 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?

Your answer	✔ The specification explicitly addresses data protection and its alignment to relevant regulations.	100 out of 100 points

A22 - Does the specification provide means for restriction of access to information/data?

Your answer	✔ The specification explicitly addresses and enables the implementation of features to guarantee confidentiality.	100 out of 100 points

A23 - Is the specification included in any initiative at European or National level covering privacy aspects?

Your answer	✔ Not Applicable	100 out of 100 points

A24 - To what extent does the specification enable the secure exchange of data?

| Your answer | ✔ The specification introduces certain aspects that can contribute to enabling the secure exchange of data. | 40 out of 100 points |

A25 - To what extent does the specification enable the secure processing of data?

| Your answer | ✔ The specification introduces certain aspects that can contribute to enabling the secure processing of data. | 40 out of 100 points |

A26 - To what extent the specification guarantees the authenticity and authentication of the roles agents involved in the data transactions?

| Your answer | ✔ The specification explicitly addresses and enables the implementation of authenticity features. | 100 out of 100 points |

A27 - To what extent information is protected against unauthorised changes?

| Your answer | ✔ The specification explicitly addresses and enables the implementation of features to guarantee data integrity. | 100 out of 100 points |

A28 - To what extent does the specification ensure and enable data processing accuracy?

| Your answer | ✔ Not Applicable | 100 out of 100 points |

A29 - To what extent does the specification provide an access control mechanism?

| Your answer | ✔ The specification explicitly foresees a set of requirements for the enabling of access control mechanisms. | 100 out of 100 points |

A30 - To what extent could the specification be used in a multilingual context?

| Your answer | ✔ The specification foresees limited support for multilingualism. | 60 out of 100 points |

EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS

Score for this Section: 500/500

A31 - Does the specification simplify the delivery of European public services?

| Your answer | ✔ YES |

100 out of 100 points

A32 - Does the specification enable digital service delivery channels?

| Your answer | ✔ YES |

100 out of 100 points

A33 - To what extent does the specification enable the long-term preservation of data/information /knowledge (electronic records included)?

| Your answer | ✔ Not Applicable |

100 out of 100 points

A34 - To what extent are there assessments of the specification's effectiveness?

| Your answer | ✔ There are such assessments directly addressing the specification. |

100 out of 100 points

A35 - To what extent are there assessments of the specification's efficiency?

| Your answer | ✔ There are such assessments directly addressing the specification. |

100 out of 100 points

EIF INTEROPERABILITY LAYERS

Score for this Section: 800/1001

A36 - Is the (or could it be) specification mapped to the European Interoperability Architecture (EIRA)?

| Your answer | ✔ YES | 100 out of 100 points | |

A37 - To what extent can the conformance of the specification's implementations be assessed?

| Your answer | ✔ The specification defines conformance as requirements that can be measured manually. | 60 out of 100 points | |

A38 - Is the specification recommended by a European Member State?

| Your answer | ✖ NO | 20 out of 100 points | |

A39 - Is the specification selected for its use in a European Cross-border project/initiative?

| Your answer | ✔ YES | 100 out of 100 points | |

A40 - Is the specification included in an open repository/catalogue of standards at national level?

| Your answer | ✖ NO | 20 out of 100 points | |

A41 - Is the specification included in an open repository/catalogue of standards at European level?

| Your answer | ✔ YES | 100 out of 100 points | |

Additional information:

| Your answer | | 0 out of 1 points | |

A42 - Is the specification a European Standard?

| Your answer | ✔ YES | 100 out of 100 points | |

A43 - Does the specification facilitate the modelling of business processes?

Your answer	✔️ YES	100 out of 100 points	

A44 - To what extent does the specification facilitate organisational interoperability agreements?

Your answer	✔️ The specification explicitly identifies all elements to be used in drafting such agreements.	100 out of 100 points	

A45 - Does the specification encourage the creation of communities along with the sharing of their data and results in national and/or European platforms?

Your answer	✔️ Yes, at European platforms.	100 out of 100 points	

Contact	CAMSS@everis.com
	CAMSS Joinup Page
Useful links	CAMSS Library of Assessments
	CAMSS Assessment EIF Scenario - User Guide
Contribution ID	40060cf4-b5ee-41b5-a9fa-b06066d66a05
Completed at	05/04/2024 11:22:09
Completion time	-