

CAMSS Assessment EIF Scenario v5.1.0

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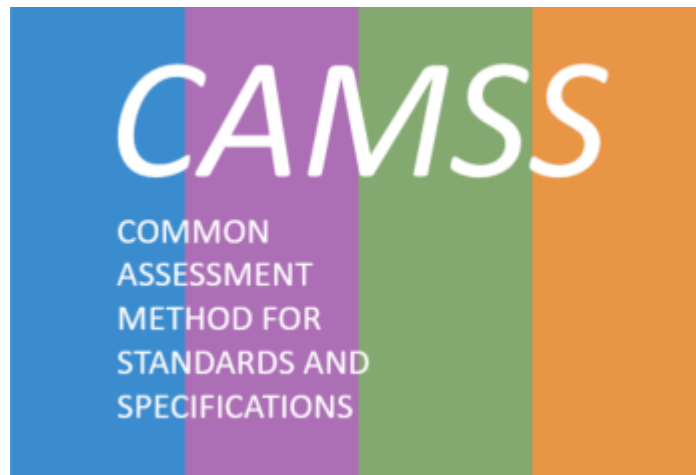
CAMSS Assessment EIF Scenario v5.1.0



Release Date: 18/07/2022

Scenario Version: 5.1.0

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.

Section	Compliance Level				
	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 440	441 to 880	881 to 1320	1321 to 1760	1761 to 2200
EIF Principles Related to generic user needs and expectations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500
EIF Foundation principles for cooperation among public	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500

administrations

EIF

Interoperability Layers

0 to 220

221 to 440

441 to 660

661 to 880

881 to 1100

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.

IDENTIFICATION

Information on the information provider

Your Last name

CAMSS Team

Your First Name

Your Position / Role

* Your Organisation

European Commission 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

* Specifacaton 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

Universal Business Language (UBL)

* Version of the specification

2.3

* Description of the specification

UBL, the Universal Business Language, defines a royalty-free library of standard XML business documents supporting digitization of the commercial and logistical processes for domestic and international supply chains such as procurement, purchasing, transport, logistics, intermodal freight management, and other supply chain management functions.

* URL from where the specification is distributed

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* 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

Information on the assessment of the specification

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

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

Considerations

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

- ☒ YES
☐ NO

Additional Information

UBL can be thought of as a lingua-franca — a (data format) language that allows disparate business applications and trading communities to exchange information along their supply chains using a common format.

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

UBL is included in 3 national catalogues of recommended specifications. They belong to Greece Malta and The Netherlands. The National Interoperability Framework of the Netherlands is fully aligned with 3 out of the 3 sections according to the European Interoperability Framework Observatory (NIFO) factsheets, while Greece is placed on the European average (2 out of 3) and Malta scores below average (1 out of 3).

NIFO factsheets:

<https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digital-public-administration-factsheets-2021>

National Catalogue of the Netherlands:

<https://www.forumstandaardisatie.nl/open-standaarden/aanbevolen>

National Catalogue of Malta:

<https://mccaa.org.mt/Section/Content?contentId=1243>

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 open data?

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
- ☐ NO
- ☒ YES

* Justification

UBL is an Extensible Mark up Language (XML) based specification. XML is a markup language and file format for storing, transmitting and reconstructing arbitrary data, and it emphasizes simplicity generality and usability across the internet. For that matter, XML supports at least one of the five stars of Tim Berners-Lee scale.

UBL v2.3 reference:
<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Tim Berners-Lee 5-star schema for Open Data:
<https://5stardata.info/en/>

A2(a) - To what extent does the specification facilitate the publication of public data as open data?

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

Relates to what degree of open data can reach the specification according to the main principles of 'open data'. These principles are stated by Tim Berners-Lee in the 5-Stars approach: <https://5stardata.info/en/>

- ☐ Not Answered
- ☐ Not Applicable
- ☐ The specification does not support the publication of data on the web, or does so but with a non-open licence.
- ☐ The specification supports publishing data on the web with an open licence 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).

- ☐ In addition to the requirements stated in the previous answer, the specification supports published data as Linked Data.

* Justification

UBL is an open standard based on XML.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Tim Berners-Lee 5-star schema for Open Data:

<https://5stardata.info/en/>

* **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

As defined on the OASIS Technical Committee (TC), only TC members are involved in the development of the UBL specification. External contribution to this committee is possible through open channels.

UBL OASIS Technical Committee reference:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl

UBL v2.3:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* **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

As defined by the OASIS Technical Committee (TC), the UBL TC is involved in the release lifecycle of the specification. External contribution to this committee is possible through open channels. Up-to-date, the UBL TC has announced three public reviews; however, the topic selection of these reviews is independent of the external contributors.

UBL OASIS Technical Committee reference:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl

* **A5 - Is the specification available with any restrictions related to Fair, Reasonable, and Non-Discriminatory ((F)RAND)?**

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.

The FRAND basis relates to fair, reasonable, and non-discriminatory IPR disclosures.

- ☐ Not Answered
- ☐ Not Applicable
- ☐ NO
- ☒ YES

* Justification

The OASIS Technical Committee, in charge of the development of UBL, operates under RF (royalty-free) on RAND Mode of the UBL IPR Policy. Therefore, the specification is licensed on a (F)RAND basis.

OASIS Intellectual Property Rights Policy, section 10.2.2:

<https://www.oasis-open.org/policies-guidelines/ipr/>

UBL Intellectual Property Rights policy:

<https://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html#S-IPR-POLICY>

* **A6 - Is the specification licensed on a royalty-free basis?**

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
- ☐ NO

☒ YES

* Justification

The OASIS Technical Committee, in charge of the development of OData, operates under RF (royalty-free) on RAND Mode of the OASIS IPR Policy. Therefore, the specification is licensed on a Royalty-free basis.

OASIS Intellectual Property guidelines, section 5.2:

<https://www.oasis-open.org/policies-guidelines/ipr/>

UBL Intellectual Property Rights policy:

<https://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html#S-IPR-POLICY>

* **A7 - 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

UBL is the product of an open and accountable OASIS Technical Committee with participation from a variety of international and industry data standards organizations. It was originally approved as an OASIS standard in 2004 and is among the most mature and widely implemented OASIS Standards. In 2014 the European Commission declared UBL 2.1 officially eligible for referencing in tenders from public administrations and in 2015 UBL 2.1 was also approved as ISO/IEC 19845:2015, establishing UBL as a true international standard for use by governmental bodies globally. With this endorsement, UBL has reached the maximum level of sanction possible for an international standard. The current version, UBL 2.3, was approved in 2021.

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#sanction

* **A8 - 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**

UBL is the product of an open and accountable OASIS Technical Committee with participation from a variety of international and industry data standards organizations. It was originally approved as an OASIS standard in 2004 and is among the most mature and widely implemented OASIS Standards. In 2014 the European Commission declared UBL 2.1 was officially eligible for referencing in tenders from public administrations. UBL is also integrated in the European Single Procurement Document (ESPD), a self-declaration form that aims to ease tendering processes in procurement.

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#sanction

UBL in ESPD project:

https://ec.europa.eu/growth/single-market/public-procurement/digital-procurement/european-single-procurement-document-and-ecertis_en

UBL adoption in ESPD:

https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_technical_handbook.html#_adoption_of_ubl_2_3

*** A9 - 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**

UBL is maintained and developed by OASIS, which is an international community developing open standards; specifically, by the Technical Committee (TC). The specification maintenance is transparent, and even if its development and the approval process is restricted to the specification TC, anyone can contribute by submitting feedback to the mailing list. All the contributions are publicly available.

Developer community OASIS:
<https://www.oasis-open.org/org/>

Transparency

* A10 - 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

UBL is designed to plug directly into existing business, accounting, legal, auditing, and records management practices, eliminating the re-keying of data required by traditional fax, scanned-image and paper-based supply chains and in doing so provides an entry point into electronic business for small and medium-sized businesses. This means that UBL is an enhancer of internal and external visibility of administrative procedures and data as well as it eases the delivery of European public services, as is the case of the ESPD project.

Developer community OASIS. UBL functionalities:
https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#functionality

UBL v2.3 reference:
<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

ESPD reference, Legal framework and context section:
https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.html#_i_1_1_legal_framework_and_context

* A11 - 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

UBL is designed to plug directly into existing business, accounting, legal, auditing, and records management practices, eliminating the re-keying of data required by traditional fax, scanned-image and paper-based supply chains and in doing so provides an entry point into electronic business for small and medium-sized businesses. Therefore UBL actively supports comprehensibility as is the case of the ESPD project.

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#functionality

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

ESPD reference, Legal framework and context section:

https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.html#_i_1_1_legal_framework_and_context

* **A12 - 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 hub format of the UBL is well suited to the public sector. A single adapter interfaces all suppliers to a common consumer and vice versa. It also interfaces all businesses to tax authorities, custom agents, transporters and accountants. Therefore, UBL can be considered a strong enabler of external interfaces for European Public Services. For instance, in the ESPD project, UBL XML behaves as an interface document between tenders and public administrations.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

ESPD reference, Legal framework and context section:

[https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.](https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.html#_i_1_1_legal_framework_and_context)

[html#_i_1_1_legal_framework_and_context](https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.html#_i_1_1_legal_framework_and_context)

*** A13 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?**

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

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**

The purpose of UBL is other than ensuring the protection of personal data. Therefore this criterion is not applicable to this specification.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Reusability

*** A14 - 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 used in other domains.
- ☐ The specification is associated with a specific domain but its use in other domains is difficult.
- ☐ The specification is associated with a specific domain but could be partially used in other domains.
- ☐ The specification is associated with a specific domain but could be used 'as-is' to other domains.
- ☒ The specification is domain-agnostic, designed to be used in any domain.

* Justification

Although designed for use in business supply chains it can be (and has been) adapted for other contexts of use. This is because all the business document constructs in a UBL are drawn from a single library of reusable components. Therefore, UBL can be used across business domains.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#functionality

* **A15 - To what extent is the specification usable beyond the business-specific domain, allowing its implementation 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 in other domains.
- ☐ The specification is associated with a specific domain but its implementation in other domains is difficult.
- ☐ The specification is associated with a specific domain but could be partially implemented in other domains.
- ☐ The specification is associated with a specific domain but could be implemented 'as-is' to other domains.
- ☒ The specification is domain-agnostic, designed to be implemented in any domain.

* Justification

Although designed for use in business supply chains it can be (and has been) adapted for other contexts of use. This is because all the business document constructs in a UBL are drawn from a single library of reusable components. Therefore, UBL can be implemented across business domains.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#functionality

Technological Neutrality and Data Portability

* **A16 - 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

DNS is independent of any specification and can be implemented without relying on other technologies.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* **A17 - 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

UBL is independent of any specification and can be implemented without any dependency on platforms.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* **A18 - 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.
- ☒ The specification explicitly foresees sets of requirements that can be implemented incrementally or separately.

* Justification

UBL is highly adaptable to the business-specific needs, allowing for partial implementations depending on the requirements of any particular context where it is to be applied.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* **A19 - 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

An important aspect of UBL design is its support for customization to meet the needs of individual organizations while maintaining complete interoperability within the standard framework. To suit the requirements of specific relationships, data structures of arbitrary complexity can be added to UBL documents without breaking XML validation against the standard schemas.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Developer community OASIS. UBL functionalities:

https://www.oasis-open.org/committees/tc_home.php?wg_abbrev=ubl#functionality

UBL Guidelines for customization:

<https://docs.oasis-open.org/ubl/guidelines/UBL2-Customization1.0cs01.pdf>

* **A20 - 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

UBL is an internationally-standardized specification for a suite of common business documents (invoices, purchase orders, waybills, etc.) and a concrete XML syntax (using XSD or RNC) for expressing those documents in a machine-readable format. It is flexible enough to include its own business objects and XML syntax as extensions. It is structured in such a way that it can make business documents utilizing a common library of business objects.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

UBL guidelines for customization:

<https://docs.oasis-open.org/ubl/guidelines/UBL2-Customization1.0cs01.pdf>

*** A21 - To what extent does the specification enable data portability between systems/applications supporting the implementation 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**

Conforming to the UBL standard means that all business document types remain machine-readable and therefore enhances interoperability between systems, as the document transfer is done in a standardized way.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

*** A22 - To what extent does the specification enable data portability between systems/applications supporting the 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

The flexible approach of UBL makes it an adaptable specification, that can change based on future business and administrative needs, therefore supporting the evolution of European Public Services.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

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

* A23 - 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

Being XML-based, UBL can uniformly reuse data, however, there are no specific provisions addressing this topic.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Inclusion and Accessibility

*** A24 - 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 UBL is not related to e-accessibility. Therefore this criterion is not applicable to this specification.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Security and Privacy

*** A25 - 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.

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 purpose of UBL is not related to the secure exchange of data. Therefore this criterion is not applicable to this specification.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

* **A26 - 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

UBL fosters data processing as it is a specification used to exchange information between systems and parties with a specific format. Therefore, by applying structure to documents and providing the data types expected, the usage of UBL can be useful for trustworthy data processing. In the case of security, there are no provisions.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Multilingualism

* **A27 - 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

UBL foresees support for multilingual context as it provides clear rules for extension and a number of subsets and tool resources such as localization dictionaries in Chinese, Danish, German, Italian, Japanese, Korean, Spanish and Turkish. This enables communities to create explicit extensions that are locally profiled for their context of use.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

The Meaning of UBL: The Value of a Semantic Data Model:

<http://ubl.xml.org/forum/the-meaning-of-ubl-the-value-of-a-semantic-data-model>

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

* **A28 - 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 administrative simplification by for example helping an Identification service access a Digital Portfolio with citizens information.

- ☐ Not Answered
- ☐ Not Applicable
- ☐ NO
- ☒ YES

* Justification

UBL design is its support for customization to meet the needs of individual organizations while maintaining complete interoperability within the standard framework. UBL simplifies the delivery of European public services as it provides a universally understood and recognized syntax for legally binding business documents, and therefore, reduces the administrative burden. A European Example is the ESPD project.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

ESPD project document:

https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_technical_handbook.html

*** A29 - 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**

UBL fosters digital exchange of business documents and invoices by establishing a commonly agreed vocabulary of business information transfer. An example of a project implementing UBL for such purpose is ESPD, whose main objective is to create a single procurement document for all European Member States.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

ESPD Handbook:

https://docs.ted.europa.eu/ESPD-EDM/3.0.1/xml_business_handbook.html

Preservation of Information

*** A30 - 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.

* Justification

UBL addresses some provisions on digital signature (see section 5.2.4 of specification), enabling the archiving and long-term preservation of information.

UBL v2.3 reference:

<http://docs.oasis-open.org/ubl/os-UBL-2.3/UBL-2.3.html>

Assessment of Effectiveness and Efficiency

* **A31 - 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

Some European projects using UBL have been found to conduct effectiveness assessments. Such is the case of PEPPOL BIS Billing or ESPD. In addition, There has been found an article assessing the impact of UBL implementation among SME's in developing countries.

Suitable EAI architectures are necessary to fit interoperability challenges of SME's in less developed countries:

<https://www.academia.edu/10858900>

[/Suitable_EAI_architectures_are_necessary_to_fit_interoperability_challenges_of_SMEs_in_less_developed_countries](#)

Peppol BIS Billing 3.0

<https://docs.peppol.eu/poacc/billing/3.0/>

* **A32 - 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**

Some European projects using UBL have been found to conduct efficiency assessments. Such is the case of PEPPOL BIS Billing or ESPD. In addition, there has been found some academic papers and assess the efficiency of UBL conformity to specific data models.

Peppol BIS Billing 3.0

<https://docs.peppol.eu/poacc/billing/3.0/>

UBL data model architecture discussion paper:

https://www.academia.edu/3213815/UBL_v2_Data_Model_Architecture_Discussion_Paper

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

*** A33 - 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**

After looking in the European Library of Interoperability Specifications, we can conclude UBL has not been mapped into the EIRA, although it is planned to be added in the Data Model ABB (semantic view).

EIRA Library of Interoperability Specifications (ELIS):

<https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/elis/release/v110>

*** A34 - 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**

In the section 6 of the specification, there is detailed information about its validation. Moreover, there exist validation services such as CEF eInvoicing, a test infrastructure that allows solution and service providers and public entities to check the compliance of their eInvoicing solution against the standard in a specific syntax: ISO/IEC 19845:2015 (UBL 2.1) or UN/CEFACT CII. CEF eInvoicing provides a ready to use testing platform, and supports the users of the CEF eInvoicing Conformance Testing service during the entire testing process. There can also be found the ESPD interoperability test bed platform to validate business rules and requirements.

CEF e-invoicing conformance testing:

<https://github.com/ConnectingEurope/eInvoicing-EN16931/releases/tag/validation-1.3.8>

ESPD Test bed:

<https://github.com/OP-TED/ESPD-EDM/wiki/Validation>

*** A35 - 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**

There are three Member States recommending UBL in their ICT National Catalogues. These Member States are The Netherlands, Malta and Greece.

CAMSS List of Standards:

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

*** A36 - 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**

Among others, UBL has been used to develop the PEPPOL specification, a which enables businesses across Europe to communicate electronically with public buyers in various stages of the procurement process. PEPPOL provides a set of technical specifications that can be implemented in existing eProcurement solutions and eBusiness exchange services to make them interoperable between disparate systems across Europe.

PEPPOL website:

<https://peppol.eu/what-is-peppol/>

*** A37 - 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 three Member States recommending UBL in their ICT National Catalogues. These Member States are The Netherlands Malta and Greece.

CAMSS List of Standards:

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

*** A38 - 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**

UBL appears in Joinup as one of the identified ICT specifications for e-procurement.

Joinup distribution of UBL:

<https://joinup.ec.europa.eu/collection/ict-standards-procurement/identified-ict-specifications-procurement>

Legal Interoperability

*** A39 - 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**

The OASIS Universal Business Language (UBL) Standard, version 2.1, has been designated by the European Commission as one of the first consortium standards officially eligible for referencing in tenders from public administrations. Still UBL is not considered a European standard although it is recognized as such.

COMMISSION IMPLEMENTING DECISION of 31 October 2014 on the identification of Universal Business Language version 2.1 for referencing in public procurement:
<https://eur-lex.europa.eu/legal-content/ES/TXT/?qid=1657095448506&uri=CELEX:32014D0771>

Organisational Interoperability

*** A40 - 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**

UBL conceptual model is based on modeling systems such as entity/relationship modeling and the unified modeling language. The use of UBL has many benefits for the modelling of business processes, among which we can highlight that it provides detailed textual descriptions, explanations, and examples of each of its specified functions and messages, as well as clear rules for extension and a number of subsets and tool resources.

The Meaning of UBL: The Value of a Semantic Data Model:
<http://ubl.xml.org/forum/the-meaning-of-ubl-the-value-of-a-semantic-data-model>

*** A41 - 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

UBL helps to ensure interoperability when it comes to define processes for setting standards-based infrastructure for electronic Extensible Markup Language (XML) business documents exchange. This is why, among other reasons, it appears as one of the setting standards for the "Commission Implementing Decision of 3 April 2014 on the identification of ICT technical specifications eligible for referencing in public procurement"

COMMISSION IMPLEMENTING DECISION of 31 October 2014 on the identification of Universal Business Language version 2.1 for referencing in public procurement:
<https://eur-lex.europa.eu/legal-content/ES/TXT/?qid=1657095448506&uri=CELEX:32014D0771>

Semantic Interoperability

* **A42 - Does the specification encourage the creation of communities along with the sharing of their data and results on national 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
- ☐ NO
- ☒ YES

* Justification

The Github repository is a developer community that hosts many discussions around UBL implementation in domain-specific business contexts. These discussions also share their data and results and are open to contributions.

UBL in Github:
<https://github.com/oasis-tcs/ubl>

*** A43 - Does the specification encourage the creation of communities along with the sharing of their data and results on 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
- ☐ NO
- ☒ YES

*** Justification**

The Joinup platform comprises a large European community of developers, some of who are focused on UBL implementations. Among the different issues addressed we can find tutorials, or discussion forums related to the specification.

Joinup: About OASIS Universal Business Language (UBL)

<https://joinup.ec.europa.eu/collection/eprocurement/solution/oasis-universal-business-language-ubl/about>

UBL in Github:

<https://github.com/oasis-tcs/ubl>

Useful links

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

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

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

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CAMSS Assessment EIF Scenario v5.1.0 - 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	Compliance Level				
	Ad-hoc	Opportunistic	Essential	Sustainable	Seamless
Principles setting the context for EU Actions on Interoperability	20	40	50	80	90
EIF Core Interoperability Principles	0 to 440	441 to 880	881 to 1320	1321 to 1760	1761 to 2200
EIF Principles Related to generic user needs and expectations	0 to 100	101 to 200	201 to 300	301 to 400	401 to 500

**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 220

221 to 440

441 to 660

661 to 880

881 to 1100

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 2200 points.
2. In the middle table – the Section Compliance Conversion Table – see that this number correlates to a column. In our example, the 2200 points of Core Interoperability Principles fall in the EIF Core Interoperability Principles row, and '1761 to 2200' 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 4060

Maximum Score 4400




Section	Score for this Section	
EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY	100 /100	<div><div></div></div>
EIF CORE INTEROPERABILITY PRINCIPLES	2080 /2200	<div><div></div></div>
EIF PRINCIPLES RELATED TO GENERIC USER NEEDS AND EXPECTATIONS	420 /500	<div><div></div></div>
EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS	440 /500	<div><div></div></div>
EIF INTEROPERABILITY LAYERS	1020 /1100	<div><div></div></div>

Scores by Question

EIF PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

Score for this Section: 100/100

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 been included within the catalogue of a Member State with a higher performance than stated in the Digital Public Administration Factsheets from the NIFO.

100
out of
100
points



EIF CORE INTEROPERABILITY PRINCIPLES

Score for this Section: 2080/2200


A2 - Does the specification facilitate the publication of open data?

Your answer  YES

100
out of
100
points




A2(a) - To what extent does the specification facilitate the publication of public data as open data?

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

80
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 following a registration process.

80
out of
100
points



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

Your answer  Public review is applied to certain releases depending on the involved changes.

40
out of
100
points



A5 - Is the specification available with any restrictions related to Fair, Reasonable, and Non-Discriminatory ((F)RAND)?

Your answer  YES

100
out of
100
points




A6 - Is the specification licensed on a royalty-free basis?

Your answer  YES

100
out of
100
points




A7 - 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




A8 - 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




A9 - 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




A10 - 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




A11 - To what extent does the specification scope comprehensively administrative procedures, rules data, and services?

Your answer  The specification actively promotes and supports comprehensibility.


100 out of 100 points



A12 - To what extent does the specification enable the exposure of interfaces to access the public administration's services?

Your answer  The specification can enable the exposure of interfaces if combined with other specifications.

80 out of 100 points




A13 - To what extent does the specification ensure the protection of personal data managed by Public Administrations?

Your answer  Not Applicable


100 out of 100 points




A14 - 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 used in any domain.


100 out of 100 points



A15 - To what extent is the specification usable beyond the business-specific domain, allowing its implementation across business domains?

Your answer  The specification is domain-agnostic, designed to be implemented in any domain.

100 out of 100 points



A16 - Is the specification technology agnostic?

Your answer  YES

100 out of 100 points



A17 - Is the specification platform agnostic?

Your answer  YES

100 out of 100 points



A18 - 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



A19 - Does the specification allow customisation?

Your
answer

✓ YES

100
out of
100
points



A20 - Does the specification allow extension?

Your
answer

✓ YES

100
out of
100
points



A21 - To what extent does the specification enable data portability between systems/applications supporting the implementation of European public services?

Your
answer

✓ The specification explicitly addresses and enables data portability.

100
out of
100
points



A22 - To what extent does the specification enable data portability between systems/applications supporting the 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: 420/500

A23 - To what extent does the specification allow relevant information to be reused when needed?


Your
answer

✓ Provided information is reused, but not in all scenarios.

80
out of
100
points




A24 - To what extent does the specification enable the e-accessibility?

Your  Not Applicable
answer

100
out of
100
points




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

Your  Not Applicable
answer

100
out of
100
points




A26 - To what extent does the specification enable the secure processing of data?

Your  The specification addresses data security and
answer trustworthy data processing but does not foresee
specific provisions to enable them.

60
out of
100
points



A27 - To what extent could the specification be used in a multilingual context?

Your  The specification foresees support for
answer multilingualism but this is not complete.

80
out of
100
points



EIF FOUNDATION PRINCIPLES FOR COOPERATION AMONG PUBLIC ADMINISTRATIONS

Score for this Section: 440/500

A28 - Does the specification simplify the delivery of European public services?

Your  YES
answer

100
out of
100
points




A29 - Does the specification enable digital service delivery channels?

Your  YES
answer


100
out of
100
points




A30 - To what extent does the specification enable the long-term preservation of data/information /knowledge (electronic records included)?

Your answer  The specification addresses long-term preservation of electronic resources (information, data, etc), but not in a complete manner.


80
out of
100
points




A31 - To what extent are there assessments of the specification's effectiveness?

Your answer  There are such assessments evaluating digital solutions' effectiveness that involve the specification.


60
out of
100
points



A32 - 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: 1020/1100


A33 - Is the (or could it be) specification mapped to the European Interoperability Architecture (EIRA)?

Your answer  YES


100
out of
100
points



A34 - To what extent can the conformance of the specification's implementations be assessed?

Your answer  The specification is complemented by a conformance testing platform to allow testing of implementations.

100
out of
100
points



A35 - Is the specification recommended by a European Member State?

Your answer  YES

100
out of
100
points



A36 - Is the specification selected for its use in a European Cross-border project/initiative?

Your answer  YES

100
out of
100
points



A37 - Is the specification included in an open repository/catalogue of standards at national level?

Your  YES
answer

100
out of
100
points



A38 - Is the specification included in an open repository/catalogue of standards at European level?

Your  YES
answer

100
out of
100
points



A39 - Is the specification a European Standard?

Your  NO
answer

20
out of
100
points




A40 - Does the specification facilitate the modelling of business processes?

Your  YES
answer

100
out of
100
points



A41 - To what extent does the specification facilitate organisational interoperability agreements?

Your  The specification explicitly identifies all elements
answer to be used in drafting such agreements.

100
out of
100
points



A42 - Does the specification encourage the creation of communities along with the sharing of their data and results on national platforms?

Your  YES
answer

100
out of
100
points



A43 - Does the specification encourage the creation of communities along with the sharing of their data and results on European platforms?

Your  YES
answer

100
out of
100
points



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