CAMSS
Assessment Methodology

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1. Introduction

1.1 What is the purpose of this document?

The purpose of this document is to provide guidance for assessing standards and specifications using the Common Assessment Method for Standards and Specifications (CAMSS)[1]. 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 is compliant with the Regulation 1025/2012 on European Standardisation.

Note that CAMSS is the European guide for assessing and selecting standards and specifications for eGovernment projects, 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.

Reviewing this document will lead the reader to the following.

- Understand what the CAMSS Tools are and how an assessment can be carried out using them.
- Know which inputs are expected per scenario to properly assess the standard or specification.
- Understand the relevance of criteria established by the scenarios and their scopes.

The CAMSS Tools – which this document supports – can be found here together with the different release components for each release.

1.2 Who is this document meant for?

This document applies to different user profiles with the need to analyse and assess a standard or a specification. This is possible as the document provides different elements for the development and understanding of assessments and their insights.

Examples of these profiles are as follows.

- **Solution Architect** is the person in charge of leading the practice, and introducing the overall technical vision for a particular solution.
- **Government Official** is an official who works for a government department.
- **Policymaker** is a member of a government department who is responsible for making new rules and laws.
- **Public Procurer** is a person who is involved in procurement processes.

You will find more information about how these profiles can leverage this document later on in the "Use cases" Section.

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[1]CAMSS Collection Homepage: https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/about

Moreover, it is worth mentioning that all users doing assessments by themselves can afterwards use the CAMSS as a Service (CAMSSaaS[2]) to ensure the assessment is compliant with the different requirements. For more information about the service, here is the Joinup space for the solution and service.

1.3 What is the value of CAMSS?

CAMSS is an established European guide for assessing and selecting standards and specifications for eGovernment projects. It can be used as a reference when building an ICT architecture, and for justifying the selection of standards and specifications.

The use of CAMSS allows for the following.

- Improvement of quality by increasing transparency, efficiency, and accountability in public administrations.
- Increase reusability by reusing existing assessments or specifications already recommended by EU Member States.
- Saving time by reducing administrative burden, speeding up assessment processes.
- Being compliant by assessing the compliance of cutting-edge specifications with reference frameworks.

The CAMSS method provides a comprehensive method and guidance for the assessment and selection of standards and specifications. It is focused on fostering interoperability and avoiding the vendor lock-in within the context of European Interoperability.

Moreover, the CAMSS Tools are available for use on self-assessments and can be accessed via Joinup. The CAMSS Team uses CAMSS Tools on a regular basis to produce assessments using the different scenarios. The use by CAMSS Team allows for the detection and improvement of the tool as well as the current document.

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[2] CAMSSaaS access point: https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/solution/camss-service-camssaas

2. Use cases

This methodology can be applied to different use cases. The following diagram presents three main profiles that can use the CAMSS Tools.
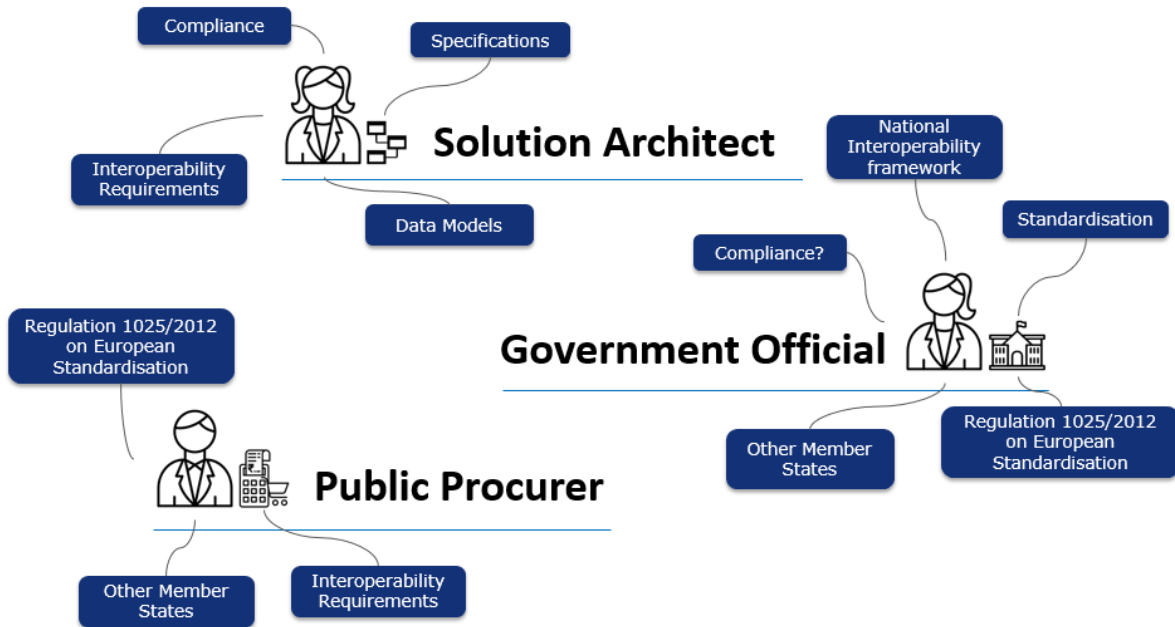
Figure 1: Diagram of possible users that are involved in the use cases

- **Solution Architect** is the person in charge of leading the practice and introducing the overall technical vision for a particular solution.
- **Government Official** is an official who works for a government department.
- **Public Procurer** is a person who is involved in procurement processes.

2.1 Solution Architect

As a Solution Architect, I want to assess a technical specification so I can determine its suitability as an interoperability enabler by evaluating it against the requirements of the European Interoperability Framework.

2.2 Government Official

As a Government Official in a Member State, in charge of developing the national catalogue of standards, I want to assess a technical specification so I can collect the evidence that it complies with the principles of the European Interoperability Framework (EIF) [3].

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[3] European Interoperability framework: https://ec.europa.eu/isa2/sites/isa/files/eif_brochure_final.pdf

As a Government Official in a Member State, I want to assess a (national) technical specification in an effort to support its developmental improvement towards their recognition as EU or at least cross-border standards.

2.3 Public Procurer

As a Public Procurer, I want to assess the compliance of a specification with the requirements laid out in the standardisation regulation 1025/2012[4] to determine if I can reference it in my public procurement documents (e.g. Terms of Reference).

As a Public Procurer, I want to provide clear technical requirements in the procurement requests I issue in terms of specifications for a solution's building blocks.

3. Scenarios

There are 3 different scenarios that CAMSS Tools cover.

- **European Interoperability Framework (EIF) Scenario**: The EIF Scenario contains different sections according to the insights and recommendations of the European Interoperability Framework (EIF).
- **Multi-Stakeholder Platform (MSP) Scenario**: The MSP Scenario assesses specifications in the context of public procurement. It contains categories divided according to the European Regulation on Standardisation 1025/2012.
- **Technical Specification (TS) Scenario**: The TS Scenario assesses specifications with technical requirements. The different specifications are analysed according to the European Regulation on Standardisation 1025/2012.

Each scenario is divided into sections depending on the scenario. The different sections are organised according to criteria, which are declared as Criterion 1 (A1), Criterion 2 (A2), and so on. For every criterion, there is an instruction or guidance on how to answer, as detailed below.

3.1 EIF Scenario

3.1.1 Description

The European Interoperability Framework (EIF) provides guidance to public administrations on how to improve the governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and ensure that existing and new legislation does not compromise interoperability efforts. This CAMSS Scenario allows for the assessment of the compliance of interoperability specifications with the EIF. The objective of

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[4]   Regulation (EU) No 1025/2012 Standardisation Regulation https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32012R1025

the obtained assessment is to determine the suitability of the assessed interoperability specification for the delivery of interoperable European public services.

3.1.2 Categories and Criteria

The different criteria in the EIF scenario are divided considering the recommendations of the European Interoperability Framework (EIF).

3.1.2.1 PRINCIPLES SETTING THE CONTEXT FOR EU ACTIONS ON INTEROPERABILITY

This category is related to the first underlying principle (UP)[5] 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.

SUBSIDIARITY AND PROPORTIONALITY
Criterion 1 (A1) – The standard or specification has been included in a national catalogue from a Member State whose NIF is fully aligned with at least 4 out of 5 sections of the EIF according to NIFO factsheets.

Search for the specification in the National catalogue of Member States. Only Member States with aligned NIFO factsheets are considered for this criterion.

NIFO factsheets can be found in the following link:
https://joinup.ec.europa.eu/collection/national-interoperability-framework-observatory-nifo/nifo-factsheets

3.1.2.2 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).

OPENESS

Criterion 2 (A2) – The standard or specification facilitates the publication of public data as open data.

The evidence used to justify this criterion will typically come from the function of the specification or a specific implementation of it. The specification must meet at least one level of the Tim Berners-Lee 5-star to be positive.

The 5-star of Tim Berners-Lee can be found in the following link:
https://5stardata.info/en/

Criterion 3 (A3) – All stakeholders have the opportunity to contribute to the development of the specification.

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[5] EIF Underlying Principles: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/2-underlying-principles-european-public-services

The evidence to justify this criterion can typically be found on the webpage of the SDO that developed the standard or specification. The SDO must confirm that all stakeholders can contribute to developing their solutions.

Criterion 4 (A4) – A public review is part of the decision-making process.
The evidence to justify this criterion will typically be found on the webpage of the SDO that developed and/or maintains the standard or specification. The SDO must confirm that a public review is part of the development and approval of the specification.

Criterion 5 (A5) – The standard or specification is available for everyone to study.
The evidence to justify this criterion will typically consist of checking that the standard or specification is hosted in an open repository that allows user access.

Criterion 6 (A6) – The standard or specification is licensed on a (F)RAND basis.
The evidence to justify this criterion will typically be available on the webpage of the SDO developing and/or maintaining the standard or specification. FRAND shall be understood according to the description provided in the Communication from the Commission to the European Parliament, the Council and the European Economic, and Social Committee setting out the EU approach to Standard Essential Patents.

For more information:
https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/fair-reasonable-and-non-discriminatory-frand-licensing-terms-research-analysis-controversial

Criterion 7 (A7) – The standard or specification is licensed on a royalty-free basis.
The evidence to justify this criterion will typically be available on the webpage of the SDO developing and/or maintaining the standard or specification.

Criterion 8 (A8) – The standard or specification is sufficiently mature for its use in the development of products and services.
The evidence to justify this criterion will typically consist of providing implementations of the specification or providing information about the creation date and the updates of the specification.

Criterion 9 (A9) – The specification has sufficient market acceptance for its use in the development of products and services.
The evidence to justify this criterion will typically consist of providing implementations of the specification or providing information about the creation date and the updates of the specification.

Criterion 10 (A10) – The standard or specification fosters the creation of innovative solutions.
The evidence to justify this criterion will typically consist of providing examples of implementations for the development of cutting-edge technology solutions.

Criterion 11 (A11) – The standard or specification has a strong support from at least one developer community.
The evidence to justify this criterion will typically consist of checking if any work or development has been carried out by any developer community regarding the standard or specification.

TRANSPARENCY

Criterion 12 (A12) – The standard or specification fosters the visibility of administrative rules, processes, data, services, and decision-making of a public administration.
The evidence to justify this criterion will typically consist of providing examples of implementations or plans for the inclusion of the standard or specification in any process related to public administration. A common use case is the digitalisation of public services.

Criterion 13 (A13) – The specification fosters the comprehensibility of administrative rules, data, services, and decision-making of a public administration.
The evidence to justify this criterion will typically consist of providing implementations or plans for the inclusion of the standard or specification in any process related to a public administration. A common use case is the digitalisation of public services.

Criterion 14 (A14) – The standard or specification helps to ensure the availability of interfaces with internal information systems of a public administration.
The evidence to justify this criterion will typically consist of providing evidence of services that implemented the specification to exchange and make use of information more efficiently and overcome interoperability barriers.

REUSABILITY

Criterion 15 (A15) – The standard or specification is reusable beyond the domain for which it was originally developed.
The evidence to justify this criterion will typically consist of providing examples of implementations of the standard or technical specifications in domains different from the one for which it was originally developed. For example, DCAT-AP – which was developed under a specific purpose and domain – describes public sector datasets for open data portals. However, it has been commonly reused for the creation of other specifications and solutions rather than data portals in Europe.

Criterion 16 (A16) – The standard has been made available for its reuse by the organisations, administrations, open communities, etc. that developed it.
The evidence to justify this criterion will typically consist of checking and providing examples that the standard or specification is hosted in an open repository that allows its download.

Criterion 17 (A17) – The standard or specification is available for free on at least one national or European platform.
The evidence to justify this criterion will typically consist of the standard being available for access on a national or European platform. An example of a European platform is Joinup, where specifications and interoperable solutions are accessible to the whole community. Besides this, other platforms at the European level can be considered the institutional websites where sets of specs and solutions are listed (e.g. ISA2 SEMIC webspace, where the link to specifications maintained by the action amongst others are placed).

TECHNOLOGICAL NEUTRALITY AND DATA PORTABILITY

Criterion 18 (A18) – The standard or specification is independent of any specific technology and/or platform.

The evidence to justify this criterion will typically consist of checking that the implementation of the standard or specification does not rely/depend on any other standard or specification mainly focused on proprietary technologies or vendors. However, it should be considered whether the specification is dependent on other specifications, even if they are open source. Meaning that the specification requires other specification/platform to run.

Criterion 19 (A19) – The standard or specification is proportionate to the needs of its users (citizens, businesses, or administrations).

This criterion shall be understood in terms of scalability. The evidence to justify this criterion will typically consist of initiatives or implementations that prove the scalability of the standard or specification.

Criterion 20 (A20) – The standard or specification fosters data portability between systems and applications supporting the implementation and evolution of European public services when legally possible.

The evidence to justify this criterion will typically consist of documentation about the characteristics of the specification which proves that it positively impacts interoperability.

3.1.2.3 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

Criterion 21 (A21) – The standard or specification eases the implementation of the Once-Only Principle.

This criterion shall be interpreted within the context of European solutions that help to implement the Once-Only Principle (OOP) (i.e. CEF). For this reason, the evidence to justify this criterion will typically consist of implementations or mentions to the specification in these solutions.

INCLUSION AND ACCESSIBILITY

Criterion 22 (A22) – The standard or specification fosters e-accessibility.

The evidence to justify this criterion will typically consist of documentation proving that the standard or specification fosters e-accessibility. Moreover, it can be positively justified if the specification document deals with e-accessibility, at some point. The specification shall foster the creation of digital services accessible to all citizens, including people with disabilities, the elderly, and other disadvantaged groups.

An example of specification can be considered WCAG: https://www.w3.org/TR/WCAG20/

SECURITY AND PRIVACY

Criterion 23 (A23) – The specification fosters the secure and trustworthy data exchange between citizens and businesses, and public administrations.

For the provision of evidence to justify this criterion, data exchange can be understood as publication by the administration of data for its later consumption by citizens. The specification must ensure that the data exchange is completely secure and that the data has not been altered.

MULTILINGUALISM

Criterion 24 (A24) – The standard or specification fosters the delivery of multilingual European public services.
The evidence to justify this criterion will typically consist of documentation proving that the standard or specification fosters multilingualism in public services. Moreover, the specification can contribute to the European public service by enabling a development in different languages, for example HTML can be configured to make a website information in many languages.

3.1.2.4 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

Criterion 25 (A25) – The adoption of the standard or specification reduces the administrative burden.
The evidence to justify this criterion will typically consist of documentation proving that the standard or specification streamlines administrative processes. Specifications easing and fostering digital exchanges while avoiding the non-digital exchange of information can be considered as part of the reduction of administrative burden. For instance, the implementation of HTML as part of the information exchange fosters the creation of digital services allowing digital data exchange and consumption, while avoiding the non-digital processes.

PRESERVATION OF INFORMATION

Criterion 26 (A26) – The standard or specification fosters the long-term preservation of electronic records and other kinds of information.
In order to provide evidence to justify this criterion, the documentation of the specification must emphasise the long-term preservation of information and ensure its preservation.

ASSESSMENT OF EFFECTIVENESS AND EFFICIENCY

Criterion 27 (A27) – There are existing studies or documentation assessing the standard or specification in terms of effectiveness and efficiency.
The evidence to justify this criterion will typically consist of already performed assessments of the standard or technical specification considering its effectiveness and/or efficiency. Commonly, these can be studies that compare the effectiveness and/or efficiency with other specifications. An example of studies or documentation could be articles in research journals (e.g. Researchgate[6], amongst others) or posts in specialised forums.

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[6] Researchgate homepage: https://www.researchgate.net/

3.1.2.5 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

Criterion 28 (A28) – The standard or specification can be mapped to the EIRA.
The evidence to justify this criterion will typically consist of a narrative sustaining the possibility for the association of the standard or specification to an EIRA ABB.

The EIRA can be found here: https://joinup.ec.europa.eu/solution/eira

Criterion 29 (A29) – Mechanisms to assess conformity of the implementations of the standard or specification (e.g. conformity tests, certifications) are available for free.
The evidence to justify this criterion will typically consist of free existing testing tools or certifications that assess the standard or specification.

Criterion 30 (A30) – The standard or specification is recommended by an EU Member State.
The evidence to justify this criterion will typically consist of a recommendation by a Member State for the implementation of the standard or specification. This recommendation can come from the administration of the Member State or from the entity in charge of standardization in that particular Member State (e.g. Difi in Norway as could be the following assessment of standard and specifications for the secure exchange of data, https://www.digdir.no/digitalisering-og-samordning/standarder-sikker-informasjonsutveksling-pa-internett/1406 , or this catalogue of recommended specifications: https://www.digdir.no/digitale-felleslosninger/arkivstandarder/1482.).

Criterion 31 (A31) – The standard or specification has been selected for its use in an EU cross-border project or initiative after agreed identification and assessment.
The evidence to justify this criterion will typically consist of documentation of an implementation of the standard or specification in the context of a cross-border project or initiative (e.g. look through CEF Digital, CEF Building Blocks, TESTA, etc.

Criterion 32 (A32) – The standard or specification is included in a catalogue of standards at the national level.
The evidence to justify this criterion will typically consist of evidence of the standard or specification being included in a national catalogue of standards.

It can be checked in the CAMSS List of Standards: https://joinup.ec.europa.eu/collection/common-assessment-method-standards-and-specifications-camss/camss-list-standards

Criterion 33 (A33) – The standard or specification is included in a catalogue of standards at EU level.

The evidence to justify this criterion will typically consist of evidence of the standard or specification being included in a supra-national catalogue of standards. The specification can be searched in European platforms, for example in CEN or CENELEC.

INTEGRATED PUBLIC SERVICE GOVERNANCE

Criterion 34 (A34) – The standard or specification is included in an interoperability agreement established between organisations involved in European public service provision.
For the justification of this criterion, the specification must be listed in an interoperability agreement. An interoperability agreement shall be understood as a common initiative by different organisations involved in European public service provision. For example, if it is included in the regulation on standardisation 1025/2012.

LEGAL INTEROPERABILITY

Criterion 35 (A35) – The standard or specification is compliant with a European standardisation regulation (e.g. regulation 1025/2012 on European standardisation).
The evidence to justify this criterion will typically consist of an assessment of the standard or specification in regards to Regulation 1025/2012. The best example of this type of assessment is the CAMSS MSP scenario.

ORGANISATIONAL INTEROPERABILITY

Criterion 36 (A36) – The standard or specification is a commonly accepted business process modelling standard or specification.
The evidence to justify this criterion will typically consist of evidence of the standard or specification supporting a common way of modelling business processes – meaning that the specification is involved or commonly used for the design of instances of flowcharts, etc. An example of this could be UML, or ITIL, which are specifications used for the definition of different steps or moments related to the business development.

Criterion 37 (A37) – The standard or specification defines organisational interoperability aspects (e.g. skills, language, etc.).
The evidence to justify this criterion will typically consist of documentation proving that the standard or specification defines organisational interoperability aspects. An example of this could be a certification of an organisational capability that are related to meet the requirements of the user community, for instance, the skills or language levels. This aspect helps to ensure the availability of services.

SEMANTIC INTEROPERABILITY

Criterion 38 (A38) – The standard or specification defines a cross-sector reusable data model.
The evidence to justify this criterion will typically consist of providing documentation proving that the specification is aligned with the principles of data models. For instance, the Core vocabularies are a good example of cross-border reusable data models.

They can be found in the following location: https://ec.europa.eu/isa2/solutions/core-vocabularies_en

Criterion 39 (A39) – The standard or specification fosters the publication of data as Linked Open Data.
The evidence to justify this criterion will typically consist of documentation or implementations of the standard fostering any of the characteristics of Linked Open Data.

The principles of Linked Open Data can be found in: https://www.w3.org/DesignIssues/LinkedData

TECHNICAL INTEROPERABILITY

This interoperability layer is covered by criteria A2-A10, corresponding to the core interoperability principle ''Openness''.

3.2 MSP Scenario

3.2.1 Description
This CAMSS scenario is dedicated to the assessment of formal specifications in the context of public procurement. The criteria used are laid out in Annex II of the regulation on standardisation 1025/2012 as requirements for the identification of ICT technical specifications for their use in procurement.

3.2.2 Categories and Criteria
The different criteria included in the MSP Scenario are divided into categories according to the European Regulation on Standardisation 1025/2012.

3.2.2.1 MARKET ACCEPTANCE
This category outlines to check if Technical specifications have market acceptance and their implementations do not hamper interoperability with the implementations of existing European or international standards. Market acceptance can be demonstrated by operational examples of compliant implementations from different vendors.

Criterion 1 (A1) – The technical specification or standard has been used for different implementations by different vendors/suppliers.
The justification to this criterion will consist of a collection of different products or projects that include implementations of the assessed specification and that are developed or carried out by different vendors/suppliers.

Criterion 2 (A2) – The implementation of the technical specification or standard does not hamper interoperability with implementations that are currently based on existing European or international standards.

To answer this criterion the following steps should be followed.
- Research to see if the assessed specification's documentation states that an interoperability issue exists between this specification and any European or international specification.
- If no issue exists, establish which existing European or international specifications may be based on, or used by, the assessed specification and if they have already been identified by the MSP.

- Once the list has been elaborated, check the degree of market acceptance of the specifications in the list. For widely accepted specifications we will assume that they do not hamper interoperability with other specifications.
- Finally, check if there is an interoperability issue between the specifications from it and the one assessed.
- In the absence of any European or international specifications whose implementation may be related to one of the assessed specifications, the justification to this criterion will be N/A as it cannot be stated with a certain degree of security if the implementation of the assessed specification hampers interoperability with the implementation of existing European or international specifications.

Criterion 3 (A3) – There are public references (especially policies or in procurement) of the respective specification made by public authorities.
In order to justify this criterion, research will be carried out for stating if there is any reference made by public authorities to the assessed specification in any public document with special regards to policies and procurements.

3.2.2.2 COHERENCE PRINCIPLE
This category is in place to check if technical specifications are coherent as they do not conflict with European standards; that is to say they cover domains where the adoption of new European standards is not foreseen within a reasonable period, where existing standards have not gained market uptake or where these standards have become obsolete, and where the transposition of the technical specifications into European standardisation deliverables is not foreseen within a reasonable period.

Criterion 4 (A4) – Does the technical specification or standard cover areas different from areas addressed by technical specifications being under consideration to become a European standard? (i.e. technical specifications provided by a non-formal standardisation organisation, that is other than CEN, CENELEC, or ETSI can be under consideration to become a European standard or alternatively an identified technical specification).
In order to justify this criterion, research shall be carried out in several steps.

• First, the areas covered by the assessed specification and the number of SDOs and Technical Committees related to it shall be determined.
• Then these SDOs and Technical Committees' documentation shall be reviewed to find out if there is any mention of any specification being proposed to become a European standard, and that could cover any of the areas covered by the assessed specification.
• After this the documentation emitted by CEN, CENELEC, ETSI, and any other concerning European institutions shall be analysed to establish if any other specification that covers the same area as the assessed specification has been proposed to become a European standard.
https://www.cenelec.eu/
https://www.cen.eu/Pages/default.aspx
http://www.etsi.org/standards
• Finally, once the research has been carried out and its results analysed, a justification will be provided with the number of coincidences found between the assessed specification and any other specification proposed to become a European standard.

Criterion 5a (A5a) – Is the adoption of new European Standards which cover the same areas as the proposed specification (or standard) foreseen within a reasonable timeframe?

In order to justify this criterion, the results of the research carried out for criterion A8 shall be analysed to determine if there is any specification that covers the same areas as the assessed specification and that is proposed for becoming a European standard. "Reasonable timeframe" shall be understood merely as the fact that the specification has already been published in the documentation of any competent European institution as a specification proposed for becoming a European standard.

Criterion 5b (A5b) – Are there existing European standards with market uptake which cover the same areas as the proposed specification (or standard) being assessed?

In order to justify this criterion, research shall be carried out in ETSI/CEN/CENELEC or any other relevant European institution's repositories to check if there is any European standard that covers the same areas as the assessed specification. In case there is a match, the specification(s) shall be analysed to determine if it has market uptake.

https://www.cenelec.eu/

https://www.cen.eu/Pages/default.aspx

http://www.etsi.org/standards

Criterion 5c (A5c) – If yes, are the existing standards becoming obsolete?

In order to justify this criterion, the specifications obtained from the research carried out for criterion A9b shall be contrasted with the results from new research carried out in every specific area covered by these specifications to find new specifications belonging to them. It shall be stated that a specification from the list is obsolete when there is a newer specification that covers the same technical area/s as it and has already been implemented.

3.2.2.3 ATTRIBUTES

This category aims to evaluate if the specification has been developed by non-profit organisations, being is a professional society, industry, trade association, or any other membership organisation that within its area of expertise develops ICT technical specifications and which is not a European standardisation organisation, national or international standardisation body. An additional evaluation is if it has been developed through processes which fulfil the following criteria.

Criterion 6 (A6) – Is the standards developing organisation a non-profit organisation?

In order to justify this criterion, research shall be carried out regarding the SDO that owns the proposed specification to state if it is a non-profit-making organisation. Examples of non-profit organisations developing standards and specifications are the World Wide Web Consortium, the Internet Engineering Task Force (IETF). See W3C https://www.w3.org/, and IETF https://www.ietf.org/.

OPENNESS

Criterion 7 (A7) – Is participation in the creation process of the specification open to all interested parties (e.g. organisations, companies, and individuals)?

In order to justify this criterion, research shall be carried out on the process of development of the assessed specification to state if it is an open process for all the interested parties (in the case that exceptions in the process exist, they shall be analysed). The justification will consist of a justified

statement (YES/NO) and a brief description of the process. It can normally be found within the specification documentation or the SDO's website.

CONSENSUS

Criterion 8 (A8) – Are the specifications approved in a decision-making process which aims to reach consensus?

In order to justify this criterion, research shall be carried out on the process of development of the assessed specification. This research will aim to state if the process objective – and thereby the approval methodology – is the common consensus and to what degree. The justification will consist of a justified statement (YES/NO) and a brief description of the process. It can normally be found within the specification documentation or the SDO's website.

TRANSPARENCY

Criterion 9 (A9) – Is relevant documentation of the development and approval process of the specification archived and identified?

In order to justify this criterion, the repositories from the SDO that owns the specification shall be examined to determine if the development and approval process of the specification are documented. It can normally be found within the specification documentation or the SDO's website.

Criterion 10 (A10) – Is information on (new) standardisation activities widely announced through suitable and accessible means?

To justify this criterion, research shall be carried out regarding the process of publication of the (new) standardisation activities to state if this information is widely announced through suitable and accessible means.

For this purpose, the following shall be considered.

• Widely announced: The open, repetitive, and non-discriminative dissemination of information shall be considered as widely announced.
• Suitable means: All specialized means such as investigation reports, specialized magazines, and bulletins belonging to public organisations with competencies in the subject shall be considered suitable.
• Accessible: All means open to the public, without discrimination of any kind towards users, shall be considered accessible.

This information can be found within the specification documentation or the SDO's website.

Criterion 11 (A11) – All relevant stakeholders can formally appeal or raise objections to the development and approval of specifications?

In order to provide a justification for this criterion, research shall be carried out on the process of development of the assessed specification to state if all relevant stakeholders can formally appeal or raise objections to the development and approval of specifications. The justification for this criterion will consist of examples of guidelines of the development process or documentation containing formal objections made to it by relevant stakeholders.

For this purpose, the stakeholders that shall be considered relevant will be those whose input could have a direct impact on the development process of the specification or on those other stakeholders whose input could have a direct impact on the development process of the specification.
This information can be found within the specification documentation or the SDO's website.

3.2.2.4 REQUIREMENTS
In this category, the criteria are aligned with the requirements established in the European Standardisation Regulation.

MAINTENANCE

Criterion 12 (A12) – Does the specification have a defined maintenance and support process?
In order to justify this criterion, the SDO that owns the assessed specification shall be analysed to determine if it has set a defined maintenance and support process. This information can be found within the specification documentation or the SDO's website.

AVAILABILITY

Criterion 13 (A13) – Is the specification publicly available for implementation and use on reasonable terms?
In order to justify this criterion, the SDO that owns the assessed specification shall be analysed to determine if it provides the specification for its implementation by the public under reasonable terms, considering reasonable terms all those that are not more restrictive than the average ones from other SDOs or organisations belonging to the specific field of application of the assessed specification.

INTELECTUAL PROPERTY

Criterion 14a (A14a) – Is the specification licensed on a (F)RAND basis?
In order to justify this criterion, the license under which the assessed specification is released shall be analysed to determine if it is compliant with the (F)RAND licensing terms. This information can be found within the specification documentation or the SDO's website.

Criterion 14b (A14b) – Is the specification licensed on a royalty-free basis?
In order to justify this criterion, the license under which the assessed specification is released shall be analysed to determine if it is royalty-free. This information can be found within the specification documentation or the SDO's website.

RELEVANCE

Criterion 15a (A15a) – Does the specification address and facilitate interoperability between public administrations?
In order to justify this criterion, research shall be carried out to determine if there is any existing documentation released by a public administration that states that the assessed specification

facilitates interoperability between any other public administration and the responsible for the release.

Criterion 15b (A15b) – Is there evidence that the adoption of the specification positively impacts one or several of the following: organisational processes, the environment, the administrative burden, the disability support, cross-border services, public policy objectives, societal needs?

In order to provide a justification for this criterion, research shall be carried out to determine if there is any existing documentation released by a public administration that states that the assessed specification positively impacts one or several of the following:

• Organisational processes
• The environment
• The administrative burden
• The disability support
• Cross-border services
• Public policy objectives and societal needs

The justification for this criterion will be positive if evidence is found of it positively impacting any of the aforementioned areas.

NEUTRALITY ANS STABILITY

Criterion 16a (A16a) – Is the specification largely independent of specific vendor products?

In order to provide justification for this criterion, research shall be carried out regarding the assessed specification to establish if it is independent of specific vendors/products. A possible justification can be given by analysing the implementations of the assessed specification to determine if they have been carried out by different vendors/suppliers.

Criterion 16b (A16b) – Is the specification largely independent of specific platforms or technologies?

In order to provide a justification for this criterion, research shall be carried out regarding the assessed specification in order to establish if it is independent of specific platforms/technologies. A possible justification can be given by analysing the implementations of the assessed specification in order to determine if they have been carried out using different platforms/technologies.

QUALITY

Criterion 17 (A17) – Has the specification sufficient detail, consistency, and completeness for the use and development of products and services?

In order to justify this criterion, the information about the implementations including the assessed specification from criteria A42a and A42b shall be reused to prove that the assessed specification has already been used for implementation. In case the research was not carried out for justifying criteria A42a and A42b, it shall be now be carried out.

3.3 Technical Specification Scenario

3.3.1 Description

This CAMSS scenario is dedicated to the assessment of formal technical specification, in general terms. According to the regulation on standardisation 1025/2012[7], a technical specification is a "document that prescribes technical requirements to be fulfilled by a product, process, service or system".

3.3.2 Categories and Criteria

The different criteria included in the TS Scenario are divided into categories according to the European Regulation on Standardisation 1025/2012.

3.3.2.1 MARKET ACCEPTANCE

This category is established to check if technical specifications have market acceptance and that their implementations do not hamper interoperability with the implementations of existing European or international standards. Market acceptance can be demonstrated by operational examples of compliant implementations from different vendors.

Criterion 1 (A1) – The technical specification or standard has been used for different implementations by different vendors/suppliers.
The justification for this criterion will consist of a collection of different products or projects that include implementations of the assessed specification and that are developed or carried out by different vendors/suppliers.

Criterion 2 (A2) – The implementation of the technical specification or standard does not hamper interoperability with implementations that are currently based on existing European or international standards.
• Carry out research to find out if the assessed specification's documentation states if an interoperability issue exists between this specification and any European or international specification.
• If it does not, establish which are the existing European or international specifications that may be based on or used by the assessed specification and if they have already been identified by the MSP.
• Once the list is elaborated, check the degree of market acceptance of the specifications in the list. For widely accepted specifications we will assume that they do not hamper interoperability with other specifications.
• Finally check if there is an interoperability issue between the specifications from it and the assessed one.
• In the absence of any European or international specifications whose implementation may be related to one of the assessed specifications, the justification to this criterion will be N/A as we cannot state with a certain degree of security that the implementation of the assessed specification hampers interoperability with the implementation of existing European or international specifications.

Criterion 3 (A3) – There are public references (especially policies or in procurement) of the respective specification made by public authorities.
In order to justify this criterion, research shall be carried out to state if there is any reference made by public authorities to the assessed specification in any public document with special regards to policies and procurements.

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[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32012R1025

Criterion 4 (A4) – The technical specification or standard has been used in different industries, business sectors, and/or functions.
In order to justify this criterion, a list of the specification's implementations shall be elaborated to check if they have been carried out in different industries, business sectors, or functions.

Criterion 5 (A5) – The products that implement the technical specification or standard has a certain or even significant market share of adoption.
In order to justify this criterion, the list elaborated for criterion A.4 shall be analysed to determine if the products that include implementations of the specification have a significant market acceptance.

Criterion 6 (A6) – The products that implement the technical specification or standard targets a broad spectrum of end-users.
In order to justify this criterion, the list elaborated for criterion A.4 shall be analysed to determine if the products that include implementations of the specification target a broad spectrum of end-users.

Criterion 7 (A7) – The technical specification or standard has strong support from at least one interest group.
In order to justify this criterion, research shall be carried out in the technical specification stakeholder forums and communications from entities belonging to other interest groups (SDOs, sectorial associations, governments, and public institutions) to determine if the specification is strongly supported. We will consider strong support when 2 or more stakeholders recommend the adoption of the specification.

3.3.2.2 COHERENCE PRINCIPLE
This category exists to check if technical specifications are coherent as they do not conflict with European standards, that is to say that they cover domains where the adoption of new European standards is not foreseen within a reasonable period, where existing standards have not gained market uptake, or where these standards have become obsolete, and where the transposition of the technical specifications into European standardisation deliverables is not foreseen within a reasonable period.

Criterion 8 (A8) – The technical specification or standard covers areas different from the areas that are already addressed by technical specifications being under consideration to become European standards (i.e. technical specifications provided by a non-formal standardisation organisation, which is other than CEN, CENELEC, or ETSI can be under consideration to become a European standard or alternatively an identified technical specification).
In order to justify this criterion, research shall be carried out in several steps.
• First, the areas covered by the assessed specification and the number of SDOs and Technical Committees related to it shall be determined.
• Then these SDOs and Technical Committees' documentation shall be reviewed to find out if there is any mention of it of any specification being proposed to become a European standard, and that could cover any of the areas covered by the assessed specification.
• After this, the documentation emitted by CEN, CENELEC, ETSI, and any other concerning European institutions shall be analysed to establish if any other specification that covers the same area as the assessed specification has been proposed to become a European standard.

https://www.cenelec.eu/
https://www.cen.eu/Pages/default.aspx
http://www.etsi.org/standards

• Finally, once the research has been carried out and its results analysed, a justification will be provided with the number of coincidences found between the assessed specification and any other specification proposed to become a European standard.

Criterion 9a (A9a) – The adoption of new European standards that cover the same areas as the proposed technical specification or standard is not foreseen.

In order to justify this criterion, the results of the research carried out for criterion A.8 shall be analysed to determine if there is any specification that covers the same areas as the assessed specification and that is proposed for becoming a European standard. "Reasonable timeframe" shall be understood merely that the specification has already been published in the documentation of any competent European institution as a specification proposed for becoming a European standard.

Criterion 9b (A9b) – There are no existing European standards with market uptake that cover the same areas as the proposed technical specification or standard being assessed.

In order to justify this criterion, research shall be carried out in ETSI/CEN/CENELEC or any other relevant European institution's repositories to check if there is any European standard that covers the same areas as the assessed specification. In case there is a match, the specification(s) shall be analysed to determine if it has market uptake.

https://www.cenelec.eu/
https://www.cen.eu/Pages/default.aspx
http://www.etsi.org/standards

Criterion 9c (A9c) – The response to the criteria "b" is "X" and the existing European standards are becoming obsolete.

In order to justify this criterion the specifications obtained from the research carried out for criterion A.9 b) shall be contrasted with the results from new research carried out in every specific area those specifications cover to find new specifications belonging to them. It shall be stated that a specification from the list is obsolete when there is a newer specification that covers the same technical area(s) as it and has already been implemented.

Criterion 10 (A10) – The technical specification or standard is based on one or more relevant international standards.

In order to justify this criterion, research shall be carried out to determine if the assessed specification is recognised as an international standard and if not, to check if it uses or is used by any international standard.

Criterion 11 (A11) – The technical specification or standard is listed as recommended by at least one Member State or a European institution.

In order to justify this criterion, research shall be carried out to state if there are any MSs that recommend the assessed specification. This recommendation will usually be done through the main standardisation organism of the MS, but could be done through any area-specific or European standardisation body.

Criterion 12 (A12) – The technical specification or standard is listed as mandatory by at least one Member State or a European institution.

In order to justify this criterion, research shall be carried out to state if any MS lists the assessed specification as mandatory. The list, where it can be stated as mandatory, shall be published by the main standardisation organism of the MS.

3.3.2.3 ATTRIBUTES

Criterion 13 (A13) – The standards definition/development/setting organisation is a non-profit making organisation.

In order to justify this criterion, research shall be carried out on the SDO that owns the proposed specification to state if it is a non-profit making organisation. This information can be found within the specification documentation or the SDO's website.

Criterion 14 (A14) – Information on the terms and policies for the establishment and operation of the standardisation organisation is publicly available.

In order to justify this criterion, research shall be carried out on the SDO that owns the proposed specification to state if the information on the terms and policies for its establishment and operation is publicly available. This information can be found within the specification documentation or the SDO's website.

OPENESS

Criterion 15 (A15) – Participation in the process of definition of the technical specification is open to all interested parties (e.g. organisations, companies, or individuals).

In order to provide a justification for this criterion, research shall be carried out on the process of development of the assessed specification in order to state if it is an open process for all interested parties (in case exceptions in the process exist, they shall be analysed). The justification will consist of a justified statement (YES/NO) and a brief description of the process.

Criterion 16 (A16) – The technical specification or standard is reviewed using a formal review process involving all the relevant external stakeholders (e.g. public consultation).

In order to justify this criterion, research shall be carried out on the review process of the assessed specification to state if it includes all relevant stakeholders' public consultation. SDOs developing standards and specifications regularly define a development and maintenance process where this information can be found.

CONSENSUS

Criterion 17 (A17) – The standards development/setting organisation approves all the technical specifications and/or standards in a decision making process aiming to reach consensus.

In order to justify this criterion, research shall be carried out on the process of development of the assessed specification to state if it is a process with the objective and so approval methodology is the common consensus and to what degree. The justification will consist of a justified statement (YES/NO) and a brief description of the process. This information can be found within the specification documentation or the SDO's website.

TRANSPARENCY

Criterion 18 (A18) – Relevant documentation of the development and approval process of the specification is archived and identified.

In order to justify this criterion, the repositories from the SDO that owns the specification shall be examined to determine if the development and approval process of the specification are documented. This information can be found within the specification documentation or the SDO's website.

Criterion 19 (A19) – Information on (new) standardisation activities is widely announced through suitable and accessible means.

In order to justify this criterion, research shall be carried out on the process of publication of the (new) standardisation activities in order to state if this information is widely announced through suitable and accessible means.

For this purpose, the following shall be considered:
• Widely announced: The open, repetitive, and non-discriminative dissemination of information shall be considered as widely announced.
• Suitable means: All specialized means such as investigation reports, specialized magazines, or bulletins belonging to public organisations with competencies in the subject shall be considered suitable.
• Accessible: All means open to the general public, without discrimination of any kind towards their users, shall be considered accessible.

Criterion 20 (A20) – Relevant stakeholders can formally appeal or raise objections to the development and approval of specifications.

In order to justify this criterion, research shall be carried out on the process of development of the assessed specification to state if all relevant stakeholders can formally appeal or raise objections to the development and approval of specifications. The justification for this criterion will consist of examples of guidelines of the development process or documentation containing formal objections made to it by relevant stakeholders. For this purpose, the stakeholders considered relevant will be those whose input could have a direct impact on the development process of the specification or on those other stakeholders whose input could have a direct impact on the development process of the specification.

Criterion 21 (A21) – Information on the standardisation process is publicly available.

In order to justify this criterion, research shall be carried out to state if the information of the assessed specification's standardisation process is available by public means. This information can be found within the specification documentation or the SDO's website.

Criterion 22 (A22) – Information on the decision making process for approving the technical specification or standard is publicly available.

In order to justify this criterion, research shall be carried out to state if the information of the assessed specification-owning SDO's decision-making process is available by public means. This information can be found within the specification documentation or the SDO's website.

Criterion 23 (A23) – Relevant documentation of the development and approval process of the technical specification or standard is publicly available (e.g. preliminary results, committee meeting notes).

In order to justify this criterion, research shall be carried out to state if the information of the assessed specification's development and approval process is available by public means. This information can be found within the specification documentation or the SDO's website.

3.3.2.4 REQUIREMENTS

In this category, the criteria are aligned with the requirements established in the European Standardisation Regulation.

MAINTENANCE

Criterion 24 (A24) – The specification has a defined maintenance and support process.

In order to justify this criterion, the SDO that owns the assessed specification shall be analysed to determine if it has set a defined maintenance and support process. The evidence of this fact can be found within the specification document or in the general maintenance and development processes established by the correspondent SDO.

Criterion 25 (A25) – The technical specification or standard has a defined maintenance organisation.

In order to justify this criterion, the justification of criterion A.24 shall be taken into account. If the answer is "yes" the organisation in charge of performing the maintenance of the specification (SDO or any other) shall be considered as the defined maintenance organisation.

Criterion 26 (A26) – The maintenance organisation for the technical specification or standard has sufficient finances and resources to ensure its freedom from short- to medium-term threats.

In order to justify this criterion, the justification of criterion A.25 shall be taken into account. If the answer is "yes" the organisation in charge of maintenance of the specification shall be analysed. The justification of this criterion will be based on the assessor's opinion and backed with the collected information.

Criterion 27 (A27) – The technical specification or standard has a defined policy for version management.

In order to justify this criterion, the SDO that owns the assessed specification shall be analysed to determine if it has set a defined policy for version management. This information can be found within the specification documentation or the SDO's website.

AVAILABILITY

Criterion 28 (A28) – The specification is publicly available for implementation and uses on reasonable terms.

In order to justify this criterion, the SDO that owns the assessed specification shall be analysed to determine if it provides the specification for its implementation by the general public under reasonable terms, considering reasonable terms all those terms that are not more restrictive than the average terms from other SDOs or organisations belonging to the specific field of application of the assessed specification.

INTELLECTUAL PROPERTY

Criterion 29a (A29a) – The technical specification or standard is licensed on a proven/well-motivated non-discriminatory basis.
In order to justify this criterion, the license under which the assessed specification is released shall be analysed to determine if it is compliant with the (F)RAND licensing terms. Disclosures on IPR are normally stated within the standard or specification documentation. Besides this, if there is no specific information in the related specification documents, information can be retrieved from SDO's website.

Criterion 29b (A29b) – The technical specification or standard is licensed on a royalty-free basis.
In order to justify this criterion the license under which the assessed specification is released shall be analysed to determine if it is royalty-free. This information can be found within the specification documentation or the SDO's website.

Criterion 30 (A30) – The documentation of the IPR for technical specification or standard is publicly available (there is a clear and complete set of licence terms).
In order to justify this criterion, the license under which the assessed specification is released shall be analysed to determine if it includes clear IPR terms. This information can be found within the specification documentation or the SDO's website.

RELEVANCE

Criterion 31a (A31a) – The technical specification or standard addresses and facilitates interoperability between public administrations.
In order to justify this criterion, research shall be carried out to determine if there is any existing documentation released by a public administration that states that the assessed specification facilitates interoperability between any other public administration and that responsible for the release.

Criterion 31b (A31b) – The adoption of the technical specification or standard positively impacts on one or several of the following: organisational processes; the environment; the administrative burden; the disability support; cross-border services, public policy objectives; societal needs.
In order to provide a justification for this criterion research shall be carried out to determine if there is any existing documentation released by a public administration that states that the assessed specification positively impacts one or several of the following:
• Organisational processes
• The environment
• The administrative burden
• The disability support
• Cross-border services
• Public policy objectives and societal needs

The justification for this criterion will be positive if evidence is found of it positively impacting any of the aforementioned areas.

Criterion 32 (A32) – The technical specification or standard addresses, facilitates or is an enabler of eGovernment.

In order to justify this criterion, research shall be carried out to determine if the assessed specification addresses and facilitates the development of eGovernment. An example of the specification easing the development of eGovernment could be considered the inclusion of the specification within the implementation of digital public service.

Criterion 33 (A33) – The functional and non-functional requirements for the use and implementation of the technical specification or standard are clearly defined.
In order to justify this criterion, research shall be carried out to determine if the SDO that owns the assessed specification has defined the functional and non-functional requirements for its implementation. Normally, this information can be found within the specification documentation.

Criterion 34 (A34) – The technical specification or standard is applicable and extensible for implementations in different domains.
In order to justify this criterion, the assessed specification shall be analysed to determine if it is extensible (it can be developed to adapt it for its implementation) for other domains. An example of a specification that can be reused across business domains is DCAT, which can be reused and extended to cover specific business needs or requirements within several business domains.

Criterion 35 (A35) – The technical specification or standard provides added value compared to alternative technical specifications or standards in the same area of application.
In order to justify this criterion, a benchmark between the assessed specification and the other specifications from its area of application shall be elaborated to analyse if the assessed specification brings value when compared to them.

Criterion 36 (A36) – The technical specification or standard is largely compatible with related (not alternative) technical specification or standards in the same area of application.
In order to provide a justification for this criterion, a list of the specifications from the assessed specification's area of application that do not represent an alternative to it shall be elaborated and analysed to see if the assessed specification is largely compatible with them.

Criterion 37 (A37) – There is evidence that the adoption of the technical specification or standard makes it easier to migrate between different solutions from different providers.
In order to justify this criterion, research shall be carried out on documentation concerning the implementation for the functionality that could be considered a good example for justifying the response. Besides this, an indicator of such utility is the fact that no limit the implementation to software from the development agency.

Criterion 38 (A38) – There is evidence that the adoption of the technical specification or standard positively impacts the financial costs.
In order to justify this criterion, research shall be carried out on documentation stating that the implementation of the assessed specification has positively impacted financial costs. Examples of this positive impact on financial costs could be reports provided after the implementation. Also, if the implementation positively affects the reduction of the streamlined process of public administrations services. The simplification of administrative processes and the digitalisation of services normally affect the financial cost positively.

Criterion 39 (A39) – There is evidence that the adoption of the technical specification or standard positively impacts any aspect of the security (e.g. data integrity, data authenticity, data

transmission or communications, data preservation, cyber threats, penetration, any other aspect related to the security of the information system or interoperability).

In order to justify this criterion, research shall be carried out on documentation stating that the implementation of the assessed specification has positively impacted security.

Criterion 40 (A40) – There is evidence that the adoption of the technical specification or standard positively impacts privacy.

In order to justify this criterion, research shall be carried out on documentation stating that the implementation of the assessed specification has positively impacted privacy. A source of evidence can be considered any implementation addressing privacy improvements and guarantees.

Criterion 41 (A41) – The risks related to the adoption of the technical specification or standard are acceptable.

In order to justify this criterion, research shall be carried out to establishing the risks of its implementation. These risks will be considered acceptable when they are not critical for the implementing organisation or when they are lower than the risks associated with the implementation of similar specifications regarding function and area of actuation.

NEUTRAL AND STABILITY

Criterion 42a (A42a) – The technical specification is independent from specific vendor products.

In order to justify this criterion, research shall be carried out on the assessed specification to establish if it is independent of specific vendors/products. A possible justification could be given by analysing the implementations of the assessed specification in order to determine if they have been carried out by different vendors/suppliers.

Criterion 42b (A42b) – The technical specification is independent from specific platforms or technologies.

In order to justify this criterion, research shall be carried out on the assessed specification in order to establish if it is independent of specific platforms/technologies. A possible justification could be given by analysing the implementations of the assessed specification to determine if they have been carried out using different platforms/technologies.

QUALITY

Criterion 43 (A43) – The specification has sufficient completeness and consistency for the use and development of products and services.

In order to justify this criterion, the information about the implementations including the assessed specification from criteria A.42 a) and A.42 b) shall be reused to prove that the assessed specification has already been used for implementation. In case the research was not carried out for justifying criteria A.42 a) and A.42 b), it shall be carried out now.

Criterion 44 (A44) – The technical specification or standard is considered mature in the sense that it has overcome most of its initial problems and is considered developed sufficiently (i.e. it fits its purpose).

In order to justify this criterion, two years will be established as the minimum period for which a technical specification shall have been running to consider it as having overcome most of its initial

problems. This information can be gathered from the history of the evolution of the specification, meaning that it has several versions and that are aligned with the requirement presented above.

Criterion 45 (A45) – There are existing or planned mechanisms to assess conformity of the implementations of the technical specification or standard (e.g. conformity tests, certifications).
In order to justify this criterion, research shall be carried out to establish if the owning SDO has defined any mechanisms to assess the conformity of its implementations. Typically it can consist of validators or conformity test provided by the owner of the specification. An example of this could be the HTML validator that W3C provides. See: https://validator.w3.org/

Criterion 46 (A46) – The technical specification or standard provides implementation guidelines and documentation for the implementation of products.
In order to justify this criterion, the assessed specification shall be analysed to establish if it provides implementation guidelines and documentation for the implementation of products. The information to justify positively this criterion can normally be found within the SDO documentation about the standard or specification. However, this information may come from external resources or certified communities.

Criterion 47 (A47) – The technical specification or standard provides an open source reference implementation.
In order to justify this criterion, the assessed specification shall be analysed to establish if it provides implementation and reference (or open-source) implementation. An example of this could be the ESPD open source version for the implementation, the information regarding this can be found here: https://ec.europa.eu/growth/single-market/public-procurement/digital/espd_en

Criterion 48 (A48) – The technical specification or standard addresses backward compatibility with previous versions.
In order to justify this criterion, the assessed specification shall be analysed to establish if it provides backward compatibility with its previous versions. This information is normally provided by the organisation developing the specification or standard.

Criterion 49 (A49) – The underlying technologies for implementing the technical specification or standard have been clearly defined, are stable, and have been tested.
In order to justify this criterion, research shall be carried out to determine if the technologies for the implementation of the assessed specification are proven, stable, and clearly defined. For example, in the context of production of machine-readable files (e.g. Ontologies), those technologies used for syntax validation or the reasoners tools like Prótege, amongst others.

4. Glossary
The following table list acronyms mentioned in the current document.

Acronym	Definition
ABB	Architecture Building Blocks
CAMSS	Common Assessment Method for Standards and Specifications
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization

EIF	European Interoperability Framework
EIRA	European Interoperability Reference Architecture
ETSI	European Telecommunications Standards Institute
EU	European Union
FRAND	Fair, Reasonable And Non-Discriminatory
ISA	Interoperability Solutions for public Administrations
IPR	Intellectual Property Rights
MS	Member State
MSP	Multi-Stakeholder Platform
NIF	National Interoperability Framework
NIFO	National Interoperability Framework Observatory
OOP	Once-Only Principle
SDO	Standards Developing Organisation
TS	Technical Specification

Table 1: Acronyms and Terms used in the document

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ISA² is a EUR 131 million programme of the European Commission which develops digital solutions that enable interoperable cross-border and cross-sector public services, for the benefit of public administrations, businesses and citizens across the EU. ISA² supports a wide range of activities and solutions, among which is the Interoperability Maturity Assessment of a Public Service (IMAPS) action.
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