ASSESSMENT SUMMARY

Portable Document Format 1.7 (PDF 1.7)

International Organization for Standardization (ISO)

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1. INTRODUCTION

The present document is a summary of the assessment of PDF 1.7 carried out by the CAMSS Team using the CAMSS EIF assessment scenario. The purpose of this scenario is assessing the compliance of a standard or specification with the European Interoperability Framework (EIF)[1].

2. ASSESSMENT SUMMARY

Portable Document Format 1.7 (PDF 1.7)[2] has been developed by Adobe System, in 2007 it acquired the ISO 3200 standard from the **International Standardisation Organisation (ISO)[3]**. The version 1.7 includes all the characteristics of the former ones. PDF main function is to enable users to view electronic documents regardless of its origin and environment.

2.1. Interoperability principles

Interoperability principles are fundamental behavioural aspects that drive interoperability actions. They are relevant to the process of establishing interoperable European public services. They describe the context in which European public services are designed and implemented.

The specification fully supports the principles setting context for EU actions on interoperability:

- **Subsidiarity and proportionality**
  PDF 1.7 is included in 3 national catalogues of recommended specifications. They belong to Estonia, the Netherlands and Spain. The National Interoperability Framework (NIF) of these Member States is fully aligned with at least 4 out of 5 sections of the European Interoperability Framework (EIF)[4] according to the National Interoperability Framework Observatory (NIFO)[5] factsheets.

The specification fully supports the principles setting context for EU actions on interoperability:

- **Openness**
  PDF 1.7 is an open specification publicly available for study or use. In ISO, all the stakeholders have the opportunity to contribute to the development of PDF 1.7 and the decision making process includes ISO members review. It has a significant market acceptance that demonstrates that it is mature enough for the development of products and services, including for the creation of innovative solutions.

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[1] https://ec.europa.eu/isa2/eif_en

[2] https://www.iso.org/standard/51502.html

[3] https://www.iso.org/home.html

[4] https://ec.europa.eu/isa2/sites/isa/files/eif_brochure_final.pdf

[5] https://joinup.ec.europa.eu/collection/national-interoperability-framework-observatory-nifo/nifo-factsheets

Nevertheless, the ISO 32000-1:2008 which refers to PDF 1.7 is not available for free for everyone to study. At the moment of performing the assessment, PDF is widely used in across sector manner. One of the main document format used for the document exchange between different parties.

- **Transparency**
PDF is a valuable tool for sharing information through the internet. Allowing to share data and information the standard foster the visibility of administration data and services. However, it does not foster ensuring the availability of interfaces with internal information systems of a public administration. The purpose of the specification is not related to reusability.

- **Reusability**
PDF is a business agnostic document format that can be reused in a cross-domain way. In addition, PDF 1.7 is made available for its reuse, the document defining the standard is available under charge, and the specification is licensed under royalty-free basis and (F) RAND basis as the disclosures shown. Additionally, the patent holder Adobe did available by means of a non-ISO document.

- **Technological neutrality and data portability**
It is a widely adopted and used for this purpose and, moreover, it is independent from any platform or software. Therefore, PDF is proportionated to the users' needs and at the same time, it does not hamper the interoperability and scalability of systems. In addition it fosters. The standard or specification is proportionate to the needs of its users, the adoption of PDF as a document format for exchanging information does not hamper the scalability of systems. It is a widely adopted and used for this purpose and, moreover, it is independent from any platform or software. The standard or specification fosters data portability between systems.

The Technical Specification partially supports the principles related to generic user needs and expectations:

- **User-centricity**
PDF 1.7 does not foster the once-only principle. The purpose of the specification is not related to user-centricity.

- **Inclusion and accessibility**
PDF 1.7 does not foster inclusion and accessibility. The purpose of the specification is not related e-accessibility.

- **Security and privacy**
PDF 1.7 provides security features that foster the trustworthy data exchange between administration and stakeholders. The specification protects in itself data integrity, but also provides capabilities to protect with passwords and user rolls the access to the document.

- **Multilingualism**
PDF 1.7 does not foster the delivery of multilingual European public services. The purpose of the specification is not related multilingualism.

The Technical Specification partially supports the foundation principles for cooperation among public administrations:

- **Administrative Simplification**
By allowing the exchange of digital documents, PDF avoids to share non-digital documents and then helps to the reduction of administrative burden.

- **Preservation of information**
PDF 1.7 does not foster the long-term preservation of electronic records and other kinds of information. The purpose of the specification is not related the preservation of information.

- **Assessment of effectiveness and efficiency**
No study assessing the effectiveness and efficiency of PDF 1.7 have been found.

2.2. Interoperability layers

The interoperability model which is applicable to all digital public services includes:
- Four layers of interoperability: legal, organisational, semantic and technical;
- A cross-cutting component of the four layers, 'integrated public service governance';
- A background layer, 'interoperability governance'.

The Technical Specification supports the implementation of digital public services complying with the EIF interoperability model:

- **Interoperability governance**
PDF 1.7 is already associated to an EIRA ABB in the European Library of Specifications (ELIS) and included in 10 Member States. In addition, PDF-Tools has a conformance validation and for its extensions and shared in most European platforms. However, PDF 1.7 is not included in any supra-national catalogue of standards.

- **Integrated public service governance & Legal interoperability**
On the one hand, no formal agreement has been found established between organisations or administrations involved in European public service provision including the usage of PDF 1.7. On the other hand, The CAMSS methods is fully aligned with the European Standardisation Regulation 1025/2012.

- **Organisational interoperability**

PDF 1.7 does not foster organizational interoperability. The purpose of the specification is not related to the topic.

- **Semantic interoperability**
PDF 1.7 does not defines a cross-sector reusable data model, but defines a file format for representing electronic documents. Moreover, the specification is not supporting the main principles for the publication of data as Linked Open Data. Finally, PDF 1.7 is not included at any European platform and has to be paid for its usage

- **Technical interoperability**
PDF 1.7 is an open specification that is widely used for the exchange of data.

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for PDF 1.7. The CAMSS "Strength" indicator measures the reliability of the assessment by calculating the number of answered (applicable) criteria. On the other hand, the number of favourable answers and the number of unfavourable ones are used to calculate the "Automated Score" per category and an "Overall Score".

The technical interoperability layer is covered by the criteria corresponding to the core interoperability principle ''Openness''.

Category	Automated Score	CAMSS Strength	Favourable	Unfavourable	Not Applicable
Principle setting the context for EU actions on interoperability	100%	100%	1	0	0
Core Interoperability principles	87%	94%	13	2	1
Principles related to generic user needs and expectations	100%	25%	1	0	3
Foundation principles for cooperation among public administrations	67%	100%	2	1	0
Interoperability layers	65%	91%	13*	7	2
Overall Score	**74%**	**84%**	**23**	**8**	**6**

With an 84% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 74% demonstrates that PDF 1.7 considerably supports the European Interoperability Framework in the domains where it applies.
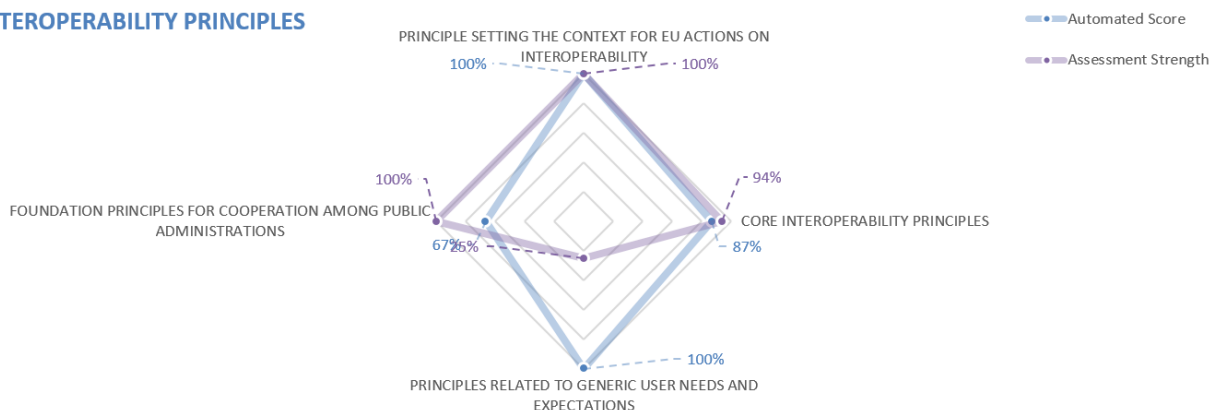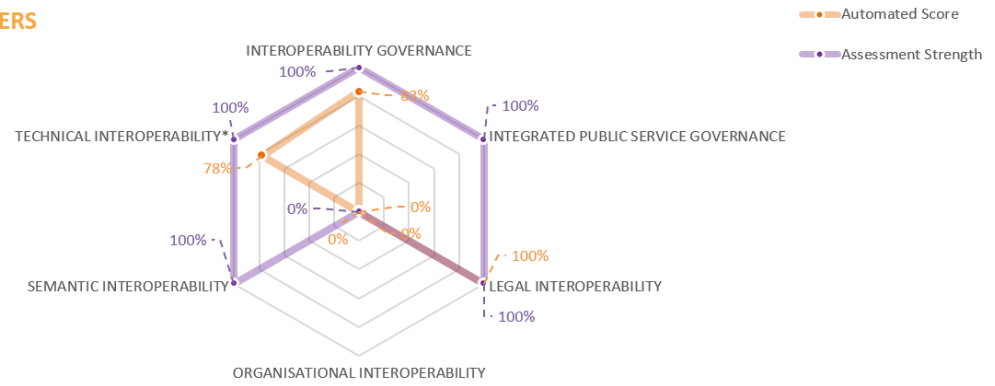

Figure 1 Assessment Results - Interoperability Principles

Figure 2 Assessment Results - Interoperability Layers