

ASSESSMENT SUMMARY v1.0.0

Tag image file format for image technology (TIFF/IT)¹

International Organization for Standardization (ISO)²

¹ <https://www.iso.org/standard/34342.html>

² <https://www.iso.org/>

Change Control

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1. INTRODUCTION

The present document is a summary of the assessment of TIFF/IT carried out by CAMSS 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)³.

2. ASSESSMENT SUMMARY

The **Tag Image File Format for Image Technology (TIFF/IT)** is high quality image format that uses lossless compression. Its main purpose is used to send data for print-ready pages that have been designed on high-end prepress systems

TIFF/IT was released in 1996 as a standard for the exchange of digital adverts. It became an ISO standard in 1998 as ISO 12639:1998, the specification had some modifications and the current version was published in 2004.

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**

TIFF/IT is included in 2 national catalogues of recommended specifications. They belong to Estonia 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) according to the National Interoperability Framework Observatory (NIFO)⁴ factsheets.

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

- **Openness**

As defined on the TC standardisation, only ISO members are involved in the development of ISO standards. Moreover, the specification is not available for free for everyone to study, payment is needed to reach access to the standard. Also, TIFF/IT is not licensed in any (F)RAND or royalty-free basis. Related to the publication of open data, the standard only supports the first level of maturity for the publication of data as open data, following Tim Berners-Lee's 5-star schema for open data.

However, TIFF/IT has a significant market acceptance which demonstrates that it is mature enough for its use. However, it cannot be considered an asset to build innovative solutions.

³ https://ec.europa.eu/isa2/eif_en

⁴ <https://joinup.ec.europa.eu/collection/national-interoperability-framework-observatory-nifo/nifo-factsheets>

- **Transparency**

Although TIFF/IT's purpose is not to foster the visibility administrative data or services, it can help with the visibility and comprehensibility of public administrations by providing high quality images and print-ready pages that can be easily edited later. However, the purpose of TIFF/IT is not related to the availability of interfaces with internal information systems.

- **Reusability**

TIFF/IT is a business domain agnostic specification that can be reused in a cross-domain way. However, as an ISO standard, it has to be paid to access its content. Moreover, there is no national or European platform with the specification TIFF/IT available for free.

- **Technological neutrality and data portability**

The specification is independent of any technology and TIFF/IT files can be open with almost any image software. Moreover, the specification is proportionate to the needs of its user and it fosters the interoperability between systems.

The specification does not support the principles related to generic user needs and expectations:

- **User-centricity**

The purpose of TIFF/IT is not related to the implementation of the once-only principle. Therefore, this criterion does not apply to this specification.

- **Inclusion and accessibility**

The purpose of TIFF/IT is not related to e-accessibility. Therefore, this criterion is considered not applicable to this specification.

- **Security and privacy**

TIFF/IT is one of the safest image file types available. The most important security benefit is the transparent data of every TIFF image file.

- **Multilingualism**

The purpose of TIFF/IT is not related to the delivery of multilingual services. Therefore, this criterion is not applicable to this specification.

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

- **Administrative Simplification**

TIFF/IT is used to send data for print-ready pages. This fact allows administrations to share digital content among others and with the stakeholders. Although it is an image format excellent for printing, it is also used to store images and to avoid paper images, which reduces the administrative burden.

- **Preservation of information**

Although TIFF/IT's purpose is not the long-term preservation of data, it can be used to store data as print-ready pages. A European initiative for the Data Management includes TIFF as one of the recommendations for the preservation of digital images⁵.

- **Assessment of effectiveness and efficiency**

No studies or documentation assessing TIFF/IT in terms of effectiveness and efficiency 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 Specification supports the implementation of digital public services complying with the EIF interoperability model:

- **Interoperability governance**

8 Member States are recommending TIFF/IT in their ICT National Catalogues. Additionally, TIFF/IT is already associated with European Interoperability Reference Architecture (EIRA) ABBs in the European Library of Specifications (ELIS). More specifically, TIFF/IT can define the interoperability aspects of the "Representation" ABB of the EIRA Semantic View. The specification is included within catalogues of standards at the national level but not at the EU level. Moreover, there are many free online tools that validate the conformity of TIFF/IT files.

Additionally, there are some European projects⁶ that are using TIFF as the format to exchange information with stakeholders. Also, OpenAire⁷, an initiative that aims to foster cooperation and reuse of data in a research environment, is recommending TIFF as a format for file preservation.

- **Integrated public service governance & Legal Interoperability**

No evidence has been found of the specification being included in a formal interoperability agreement between organisations involved in the European public services provision. Moreover, no assessment verifying the compliance of the specification with the European standardisation regulation has been found.

⁵ <https://www.openaire.eu/data-formats-preservation-guide>

⁶ <https://www.eea.europa.eu/data-and-maps/data/digital-elevation-model-of-europe>

⁷ <https://www.openaire.eu/data-formats-preservation-guide>

- **Organisational interoperability**

TIFF/IT is not a business process modelling standard or specification and does not define organisational interoperability aspect. The purpose of the specification is not related to organisational Interoperability.

- **Semantic Interoperability**

TIFF/IT defines a computer file format for storing raster graphics images, but does not define a cross-sector reusable data model. Moreover, it does not support the main principles for the publication of data as Linked Open Data.

- **Technical interoperability**

This technical interoperability layer is covered by the core interoperability principle "Openness".

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for **Tag image file format for image technology (TIFF/IT)**. 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”.

Category	Automated Score	Assessment Strength	# Favourable	# Unfavourable	# Not Applicable
Principle setting the context for EU actions on interoperability	100%	100%	1	0	0
Core interoperability principles	56%	95%	10	8	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*	45%	91%	9	11	2
Overall Score	58%	85%	19	14	6

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

With an 85% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 58% demonstrates that the specification supports the European Interoperability Framework in the domains where it applies.

INTEROPERABILITY PRINCIPLES

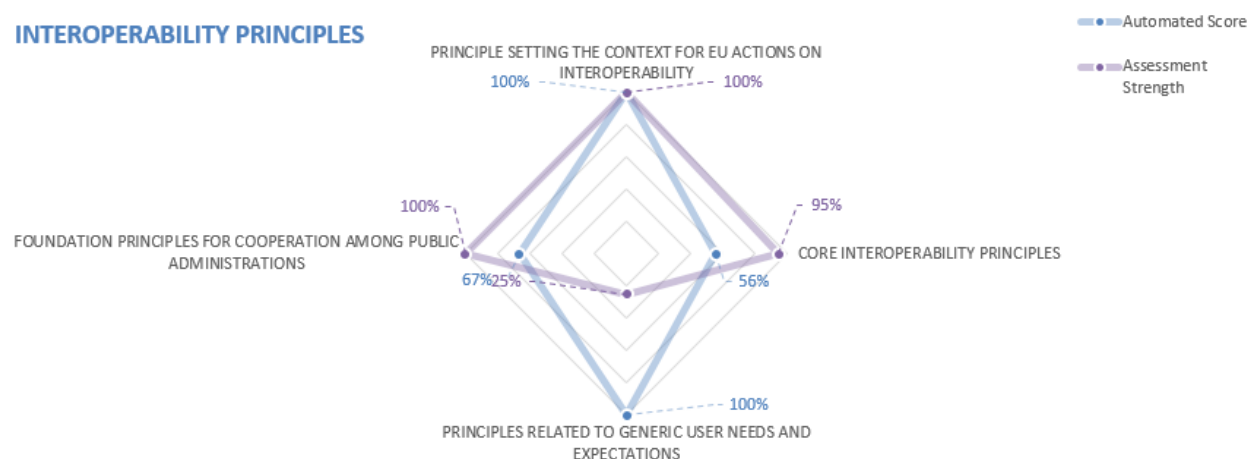


Figure 1. Interoperability principles Results

INTEROPERABILITY LAYERS

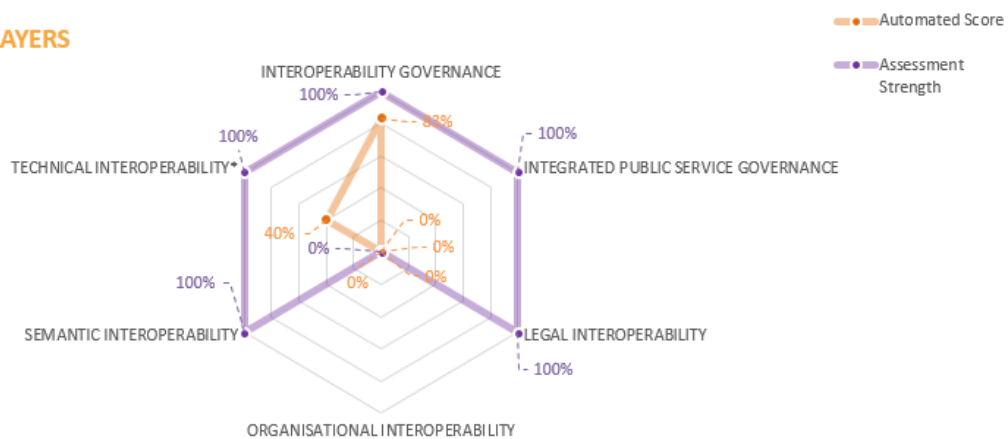


Figure 2. Interoperability layers Results