ASSESSMENT SUMMARY

CMS Advanced Electronic Signatures Baseline Profile (CAdES Baseline Profile)

European Telecommunications Standards Institute (ETSI)

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1. INTRODUCTION

The present document is a summary of the assessment of CAdES Baseline Profile 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

CAdES Baseline Profile[2] is a specification developed and maintained by the **European Telecommunications Standards Institute (ETSI)**[3]. It defines a set of basic features and conformance levels based on CMS to improve the interoperability between administration and business where there is a need for data exchange including AdES signatures.

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**
  CAdES Baseline Profile is included in 2 national catalogues of recommended specifications. They belong to 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**
  CAdES and the assessed profile CAdES Baseline Profile are open specifications available for its implementation and use. ETSI has developed its standardisation process according to its long experience. In ETSI's standardisation process all the stakeholders involved in the development of standards or specifications can contribute. In addition to this, a public review is part of the decision-making process. Furthermore, the inclusion of the specification in several European projects and initiatives demonstrates that CAdES Baseline profile has enough maturity and market acceptance for its use in the development of products and services.

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

[2] https://www.etsi.org/deliver/etsi_ts/103100_103199/103173/02.02.01_60/ts_103173v020201p.pdf

[3] https://www.etsi.org/

[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

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- **Transparency**

  The purpose of the specifications is not related to the visibility and comprehensibility of administrative rules, processes or data.

- **Reusability**

  CAdES and CAdES Baseline Profile are sector agnostic specifications. Both have been made available for its implementation, study and use by ETSI.

- **Technological neutrality and data portability**

  CAdES Baseline Profile is independent of any specific technology and/or platform and is designed to foster data portability between systems and applications.

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

- **User-centricity**

  CAdES Baseline profile fosters the implementation of the Once-Only Principle by reducing the interaction between the administration, business and citizens. Moreover, it allows the reuse of data by public administrations across borders.

- **Inclusion and accessibility**

  CAdES Baseline Profile does not foster e-accessibility. The purpose of the specification is not related to e-accessibility.

- **Security and privacy**

  By providing conformance requirements for the electronic signatures over CMS, CAdES Baseline profile helps to ensure the secure and trustworthy data exchange between administrations and stakeholders.

- **Multilingualism**

  The purpose of the specification is not related to multilingualism. Therefore, CAdES Baseline profile does not foster the delivery of multilingual European public services.

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

- **Administrative Simplification**

  CAdES Baseline profile defines a set of conformance levels that ensure the correct data exchange of signed data between administrations and stakeholders. This fact avoids administrations to do non-digital data exchange fostering the reduction of administrative burden.

- **Preservation of information**

The purpose of the specification is not related to the long-term preservation of any kind of electronic document. Even though, CAdES Baseline Profile provides one profile that aims to the long-term preservation of eSignatures validation materials. This last point is a key element in the interchange of data between administrations and stakeholders.

- **Assessment of effectiveness and efficiency**
  No study assessing the effectiveness and efficiency of CAdES Baseline Profile has 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**
  Several Member States are recommending CAdES in their ICT National Catalogues. Additionally, CAdES Baseline Profile is already associated with the European Interoperability Reference Architecture (EIRA) ABBs in the European Library of Specifications (ELIS). Specifically, PAdES Baseline Profile can define the interoperability aspects of "e-Seal Creation Service", "e-Seal Verification and Validation Service", "e-Signature Creation Service", and "e-signature Verification and Validation Service" ABBs of the EIRA Technical View.

- **Integrated public service governance & Legal interoperability**
- ETSI is one of three Standardisations Organisation in Europe and all the standards developed and maintained by them are in compliance with the European Standardisation Regulation 1025/2012. Moreover, a European Commission implementation decision (2015/1506) recognises CAdES, PAdES, XAdES, and ASIC as formats for electronic signatures purposes.

- **Organisational interoperability**
  The purpose of the specification is not related to organisational Interoperability aspects.

- **Semantic interoperability**
  The purpose of CAdES is not related to the publication of Linked Open Data. Moreover, CAdEs defines a set of basic requirements to ensure the interoperability between administrations and business.

- **Technical interoperability**
  CAdEs Baseline Profile is an open specification widely used for trusted data across borders.

3. ASSESSMENT RESULTS

This section presents an overview of the results of the CAMSS assessments for CAdES Baseline Profile. 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	100%	100%	13	0	3
Principles related to generic user needs and expectations	100%	50%	2	0	2
Foundation principles for cooperation among public administrations	67%	100%	2	1	0
Interoperability layers	94%	82%	17*	1	4
Overall Score	**93%**	**78%**	**27**	**2**	**8**

With a 78% of assessment strength, this assessment can be considered representative of the specification compliance with the EIF principles and recommendations.

The Overall Automated Score of 93% demonstrates that CAdES Baseline Profile highly supports the European Interoperability Framework in the domains where it applies.
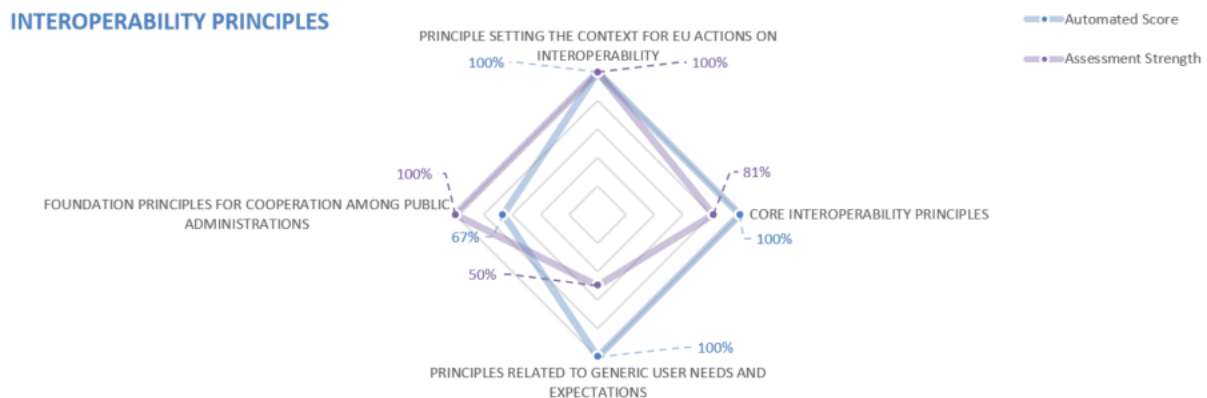

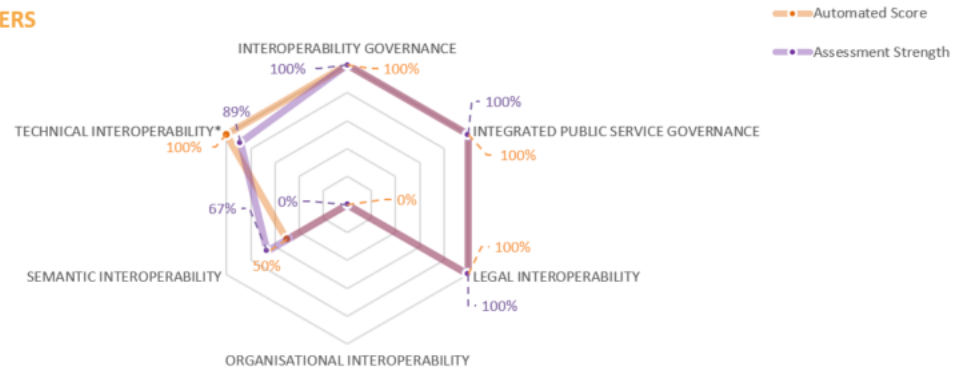**Figure 1 Assessment Results - Interoperability Principles**

INTEROPERABILITY LAYERS

Figure 2 Assessment Results - Interoperability Layers