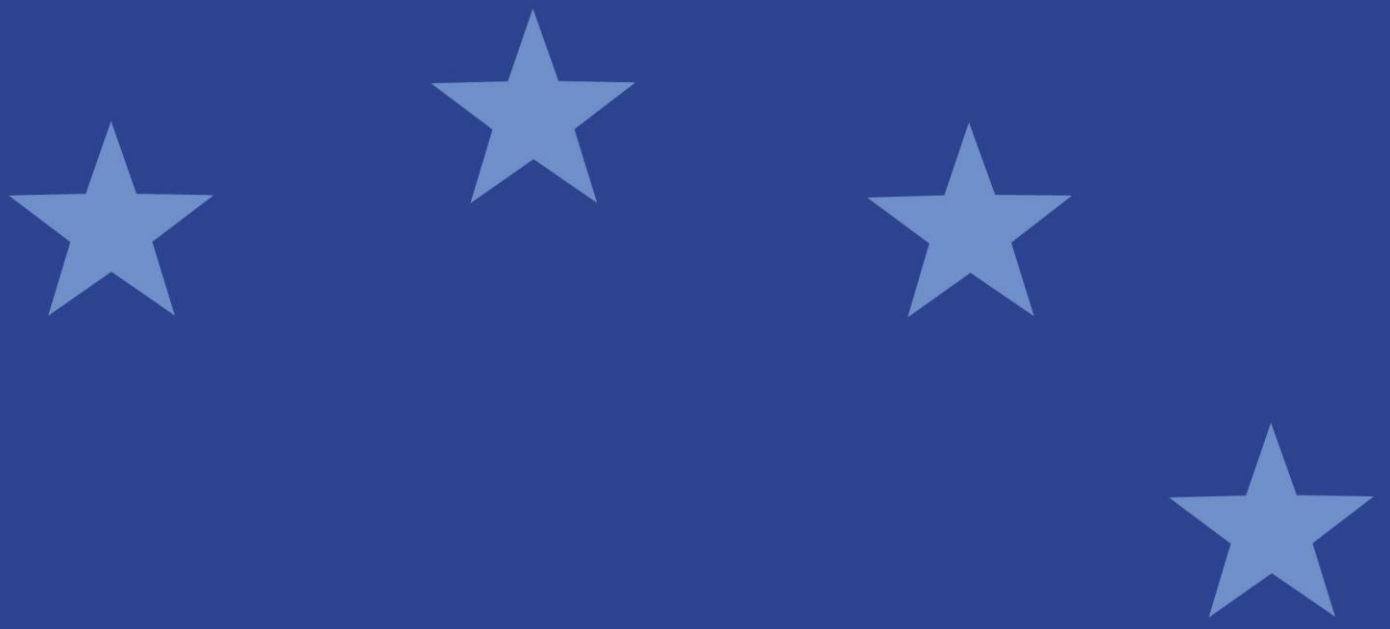
esma European Securities and Markets Authority

Consultation Paper

Draft Regulatory Technical Standards on European Electronic Access Point (EEAP)



19 December 2014 | ESMA/2014/1566

Responding to this paper

ESMA invites comments on all matters in this paper and in particular on the specific questions summarised in Annex III. Comments are most helpful if they:

1. respond to the question stated;
2. indicate the specific question to which the comment relates;
3. contain a clear rationale; and
4. describe any alternatives ESMA should consider.

In order to respond to this paper, please follow the instructions given in the document 'Reply form for the EEAP Consultation Paper' also published on the ESMA website.

ESMA will consider all comments received by **30 March 2015**.

All contributions should be submitted online at www.esma.europa.eu under the heading 'Your input - Consultations'.

Publication of responses

All contributions received will be published following the close of the consultation, unless you request otherwise. Please clearly and prominently indicate in your submission any part you do not wish to be publically disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure. A confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the heading Legal Notice.

Who should read this paper

In particular, comments are sought from issuers, officially appointed mechanisms, investors, users of regulated information and stakeholders at large who are affected by Directive 2004/109/EC of December 2004 as amended by Directive 2013/50/EC.

Table of Contents

List of abbreviations and definitions

BIC – Business Identification Code

BRIS – Business Registers Interconnection System

CESR – Committee of European Securities Regulators

CP – Consultation paper

CSV – Comma-separated values

Dblink – Database link

EEAP – European electronic access point

EMIR – European Market Infrastructure Directive

ESEF – European Single Electronic Format

ESMA – European Securities and Markets Authority

FTP – File Transfer Protocol

HMS – Home Member State

HTTP –Hypertext Transfer Protocol

HTTPs – Secure Hypertext Transfer Protocol

ISIN – Instrument identifier

ISO – International Organization for Standardization

LEI – legal entity identifier

MAD – Market Abuse Directive

MiFID – Markets in Financial Instruments Directive

MiFIR – Markets in Financial Instruments Regulation

NCA – national competent authority

OAM – national storage mechanism

OCR – Optical Character Recognition

LEI ROC – Legal Entity Identifier Regulatory Oversight Committee

RTS – regulatory technical standard

SE – Societas Europaea

sFTP – SSH (Secure Shell) File Transfer Protocol

SSH – Secure Shell

SSL – Secure Sockets Layer

SWIFT – Society for Worldwide Interbank Financial Telecommunication

TD – Transparency Directive 2004/109/EC

TDA – amended Transparency Directive 2013/50/EU

TLS – Transport Layer Security

URL – Uniform resource locator

UTF – Universal Transformation Format

W3C – World Wide Web Consortium

XML – Extensible Markup Language

ESMA Regulation	Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
Transparency Directive	Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are traded on a regulated market and amending Directive 2001/34/EC.
Amended Transparency directive	Directive 2013/50/EU of European Parliament and of the Council of 22 October 2013 amending Directive 2004/109/EC of the European Parliament and of the Council on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market, Directive 2003/71/EC of the European Parliament and of the Council on the prospectus to be published when securities are offered to the public or admitted to trading and Commission Directive 2007/14/EC laying down detailed rules for the implementation of certain provisions of Directive 2004/109/EC.
Transparency Directive implementing directive	Directive 2007/14/EC, of 8 March 2007, laying down detailed rules for the implementation of certain provisions of Directive 2004/109/EC on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market.
Market Abuse Directive	Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (market abuse).
Market Abuse implementing directive	Directive 2003/124/EC of 22 December 2003 implementing Directive 2003/6/EC of the European Parliament and of the Council as regards the definition and public disclosure of inside information and the definition of market manipulation.
Issuer	means a natural person, or a legal entity governed by private or public law, including a State, whose securities are admitted to trading on a regulated market.

	In the case of depository receipts admitted to trading on a regulated market, the issuer means the issuer of the securities represented, whether or not those securities are admitted to trading on a regulated market.
Regulated information	All information which the issuer, or any other person who has applied for the admission of securities to trading on a regulated market without the issuer's consent, is required to disclose under the Transparency Directive, under Article 6 of the Market Abuse Directive, or under the laws, regulations or administrative provisions of a Member State adopted under Article 3(1) of the Transparency Directive (transposition of the Transparency Directive).
Commission Recommendation of 11 October 2007	The Commission Recommendation of 11 October 2007 (2007/657/EC) on the electronic network of officially appointed mechanisms for the central storage of regulated information referred to in Directive 2004/109/EC of the European Parliament and of the Council.

1 Executive Summary

Reasons for publication

The amended Transparency Directive 2013/50/EC (TDA) was published in the Official Journal of the European Union on 6 November 2013 and entered into force on 27 November 2013. ESMA is required to develop and submit draft Regulatory Technical Standards (RTSs) setting technical requirements regarding the access to regulated information at Union level to the European Commission (Commission or EC) by 27 November 2015.

According to Articles 10 and 15 of Regulation (EU) No 1095/2010 of the European Parliament and of the Council establishing ESMA (ESMA Regulation), ESMA must conduct a public consultation before submitting draft RTSs to the Commission. Therefore, this Consultation Paper (CP) seeks stakeholders' views on proposals for such RTSs. The input from stakeholders will help ESMA finalise the draft RTSs. Respondents to this CP are encouraged to consider the costs and benefits that the draft RTSs would imply and provide the relevant data to support their arguments or proposals.

Contents

Section 1 'RTS for the operation of the EEAP' outlines the key parameters of the EEAP, the search criteria, infrastructure and provides the rationale for its introduction.

Section 2 'RTS on communication technologies used by OAMs' defines a common set of requirements on technologies to be used by OAMs for the exchange of information with the EEAP and provides the background for those requirements.

Section 3 'RTS on the use of unique identifier' provides a rationale for introducing a unique identifier for each issuer that shall be used by OAMs, outlines possible technical solutions and the related technical requirements.

Section 4 'RTS on the Common format for the delivery of regulated information' outlines the format to be used and the characteristics of harmonised metadata necessary to provide fast and easy access to regulated information stored by OAMs.

Section 5 'Common classification and list of types of regulated information' lists and classifies regulated information stored by OAMs which should be available through the EEAP and used when searching for regulated information.

Next Steps

ESMA will consider the feedback received in relation to this consultation when finalising the draft RTSs to be submitted to the European Commission by 27 November 2015 for endorsement.

2 Introduction

1. ESMA's objectives include fostering investor protection and contributing to the establishment of high-quality common regulatory and supervisory standards and practices. In particular, ESMA achieves this aim by providing opinions to the Union institutions and by developing guidelines, recommendations and draft regulatory and implementing technical standards based on the legislatives acts referred to in Article 1(2) of the ESMA Regulation, which include the Transparency Directive (TD).[1]

2. The TD provisions on disclosure and availability of regulated information include three parallel requirements: regulated information must (i) be disseminated throughout the EU in a manner ensuring fast access to such information on a non-discriminatory basis; (ii) be made available to the public through the officially appointed mechanism of the Home Member State (HMS); and (iii) be filed with a Competent Authority (who also may decide to publish such information).

3. The TD requires each Member State to have at least one OAM for the central storage of regulated information. When an issuer discloses regulated information (as defined in Article 2(1)(k) of the TD),[2] the information is required to be filed with the OAM of the HMS.

4. In addition to requiring regulated information to be available through national OAMs, the TD anticipated the creation of an EU network of national OAMs. However, the Directive did not make that network compulsory until 2013, when the TDA has tasked ESMA with the development and operation of a web portal serving as the European electronic access point ('the access point' or 'the EEAP').

5. With the overall objective of promoting cross-border investment, in particular in relation to small and medium sized enterprises (SME),[3] by providing investors with easy access to regulated information, ESMA was empowered to take measures, through the development of regulatory technical standards, to improve the functioning of the

[1] Directive 2004/109/EC of the European Parliament and of the Council on the harmonisation of the transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC.
[2] Notably information published in accordance with (i) the TD (periodic and ongoing information), (ii) Article 6 of the Market Abuse Directive 2003/6/EC (inside information) and (iii) national laws, regulations or administrative provisions adopted under Article 3(1) of the TD.
[3] Chapter 4 of the Transparency Directive Assessment report.
http://ec.europa.eu/internal_market/securities/docs/transparency/report-application_en.pdf

network of OAMs and to develop technical criteria for the access to regulated information at Union level.[4]

6. In particular, Article 22 (1) of the TDA assigns ESMA with responsibilities in drafting regulatory technical standards in relation to:

    a. the technical requirements regarding the communication technologies used by the OAMs (section 2);

    b. the technical requirements for the operation of a central access point for the search of regulated information at Union level (section 1);

    c. the technical requirements regarding the use of a unique identifier for each issuer by OAMs (section 3);

    d. the common format for the delivery of regulated information by national OAMs (section 4); and

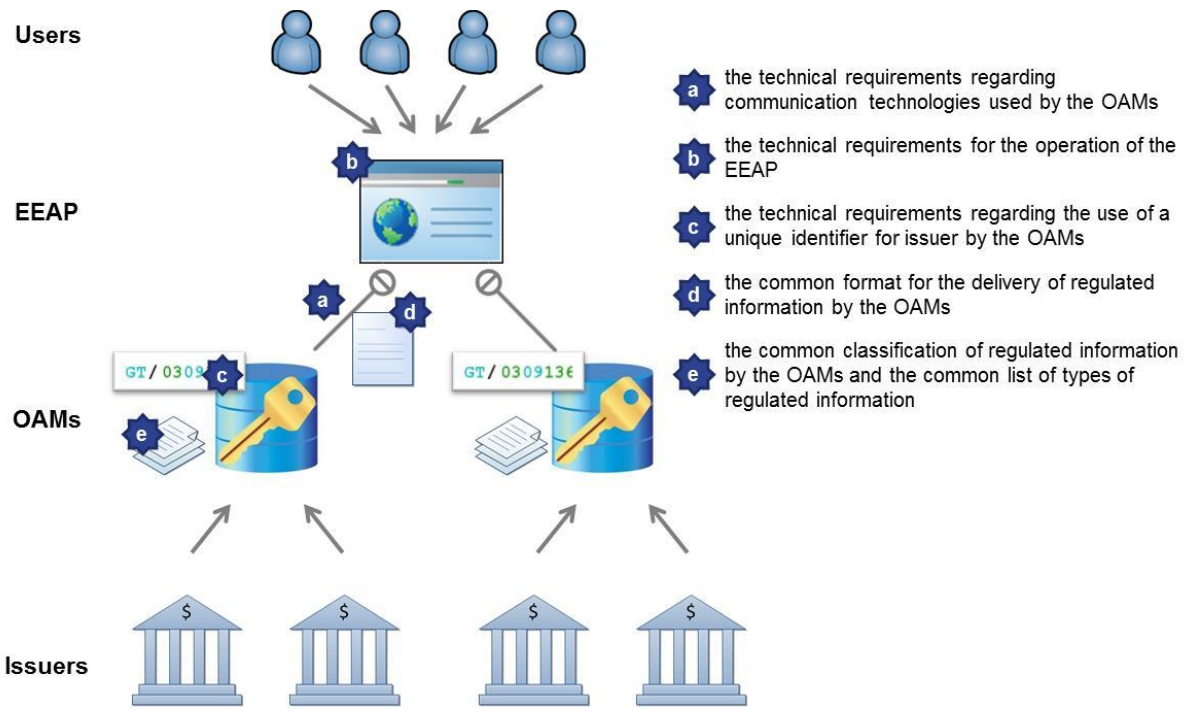
    e. the common classification of regulated information by OAMs and the common list of types of regulated information (section 5).

7. While performing this task, ESMA should take into account technical developments in financial markets, communication technologies and technical requirements for the Business Registers Interconnection System (BRIS).[5]

8. The following figure illustrates the requirements that ESMA has responsibilities in drafting and its interaction between them:

[4] Recital 15 of the TDA
[5] Directive 2012/17/EU of the European Parliament and of the Council of 13 June 2012 amending Council Directive 89/666/EEC and Directives 2005/56/EC and 2009/101/EC of the European Parliament and of the Council as regards the interconnection of central, commercial and companies registers .

Figure 1 – RTS on the EEAP



3 Section I – RTS for the operation of the EEAP

3.1 Introduction

9. In 2010, ESMA's predecessor, the Committee of European Securities Regulators (CESR), published a report on the development of pan-European access to financial information disclosed by listed companies.[6]In that report, CESR discussed in particular the integration of OAMs, infrastructure and search facilities. In addition, it investigated potential costs and benefits that could be incurred or obtained from its development.

10. In 2013, the TDA empowered ESMA to establish and operate a web portal (the EEAP) and to develop draft RTS on the search facilities. The main objective of the EEAP is to provide easy access to end-users (investors and other users of regulated information) looking for regulated information on companies admitted to trading on regulated markets in Europe.

11. ESMA believes that the development of the EEAP should bring significant benefits to all end-users of regulated information. The EEAP shall allow an easier cross-border access to regulated information, lower the search time and, potentially, reduce the information access costs. ESMA considers that this will be a significant step forward from the current situation where end-users are limited to searching for regulated information on individual OAMs.

12. A streamlined benchmarking will also benefit issuers as it will facilitate a comparison with their competitors and improve their visibility among current and potential investors. ESMA believes this is particular true for smaller issuers whose disclosures may not always receive the same level of attention compared with their larger competitors. Hence, the EEAP can especially contribute to reinforcing the EU capital market for SMEs.

13. ESMA also considers that the EEAP will enhance the cross-border visibility of OAMs, which may continue to offer value-added services, and complement the current system for the dissemination of regulated information, as end-users will know in which OAM

[6]Development of Pan-European Access to Financial Information Disclosed by Listed Companies http://www.esma.europa.eu/system/files/10_791c.pdf

the regulated information is stored and be able to search for more information related to issuers on the OAMs' websites.

3.2 Background to the requirements

14. As noted above, Article 21a of the TDA empowers ESMA to establish and operate a web-portal, namely the EEAP. Additionally, this article requires Member States to ensure the EEAP access to the OAMs' storage databases, and thus the system of interconnection shall be composed of OAMs and the EEAP. Consequently, it is clear from the provisions in the TDA that the EEAP will not replace the role of OAMs in storing regulated information, providing instead access to the information that is already stored by OAMs.

15. Therefore, ESMA is of the view that technical requirements for the operation of the EEAP information should not create additional obligations on issuers and OAMs in terms of how and what information is stored.

16. Considering that OAMs are likely to be the stakeholders most affected in terms of costs, ESMA has conducted an extensive consultation with OAMs aimed at obtaining their views on a preliminary list of requirements as well as information on the communication technologies used and documents stored. ESMA has considered this information when defining the requirements for the EEAP.

17. When setting out relevant criteria to guide the development of the RTS to be specified pursuant to Article 22 (1) (b) of the TDA, ESMA took into account Recital 15 of the TDA which provides the rational for the provisions of Article 22, and explicitly mentions that *'investors should be able to* ***easily access regulated information for all listed companies in the Union***' (emphasis added).

18. Additionally, in this recital, and in the TD assessment report,[7] it is also acknowledged that the current network of OAMs for the central storage of regulated information does not facilitate an easy search for such information across the Union. Therefore, it can be assumed that when the recital refers to the need for ESMA to take measures to improve the functioning of OAMs, it should be understood that those measures should

[7] Transparency Directive Assessment Report: http://ec.europa.eu/internal_market/securities/docs/transparency/report-application_en.pdf

be directed to rectify the shortcomings identified in the functioning of the network of OAMs.

19. Accordingly, based on the provisions of the TDA in this regard, ESMA believes that two core criteria can be determined when developing the RTS regarding the access to regulated information:

- **Criterion 1** – the requirements defined in the draft RTS should ensure an **easy search** for regulated information**.**

- **Criterion 2** – the requirements defined in the draft RTS should ensure an easy **access to regulated information for all listed companies**.

20. Furthermore, ESMA believes that in the development of the draft RTS on the access to regulated information it should consider the overall objective of the TD, which states in recital 1 that '*the disclosure of* ***accurate, comprehensive and timely*** *information about issuers builds sustained investor confidence and allows an informed assessment of their business performance and assets. This enhances both investor protection and market efficiency'* (emphasis added).

21. ESMA cannot ensure that the information provided through the EEAP to investors is accurate and comprehensive, or that it is made available in due time to facilitate effective decision-making process by investors. This is the responsibility of issuers, who are ultimately responsible for the accuracy, comprehensiveness and dissemination of regulated information. However, the draft RTS should ensure that the information provided through the EEAP reflects accurately the information made available by issuers to OAMs following the provisions in Article 21 of the TD and that it shall be displayed in a timely manner by the EEAP.

22. Recital 15 of the TDA also notes that the development of communication technologies should be taken into account when developing technical standards. Therefore, the technologies used should guarantee quality and security of the access, while also allowing for sufficient flexibility in adapting to changes in communication technologies and in the EEAP's interconnection with OAMs. Finally, ESMA considers that the requirements should guarantee adequate support and maintenance of the EEAP.

- **Criterion 3** – the requirements defined in the draft RTS should ensure that the EEAP is **adaptable** to developments in communications technologies, provide adequate **availability** and **support** level, and ensure the **integrity** of the information exchanged.

Connection to BRIS

23. Article 22(2) of the TDA explicitly mentions that in developing the draft RTS, ESMA should take into account the technical requirements for BRIS.

24. As the TDA is not explicit in this requirement, ESMA considered whether the intention of the legislator when including this provision was to help ESMA on the development and operation of the EEAP taking into account that a similar project (European access point for information on companies) has been developed recently. Consequently, ESMA consulted the available technical documentation explaining how BRIS has developed the infrastructure and the connection with national registries and the list of business and technical requirements discussed and agreed.

25. In addition, ESMA analysed possible synergies that could be obtained if there was an interconnection with the BRIS. In that analysis, ESMA concluded that a stronger interconnection between the two systems would not bring significant synergies, for the following reasons:

    a. Although ESMA acknowledges that some of the information stored by company/business registries, such as statutes, articles of association or annual accounts, could be useful for end-users, the regulated information to be published under different securities law directives should already cover the information that is likely to affect the price of the listed securities.

    b. As the information stored by the company/business registries is not aligned with the scope of regulated information in the TD, issuers would continue to be required to send all regulated information to OAMs and end-users would still need to consult both systems to ensure that they have all information related to issuers.

    c. The definitions of issuers included in the TD and entities required to provide information to company/business registries are not aligned. For instance, the definition of issuers in accordance with the TD also covers natural persons and entities with registered office outside Europe.

26. On the basis of the above, ESMA proposes to provide in the EEAP website a link to the BRIS system and ESMA will continue to monitor the developments to the BRIS to assess whether more advanced integration should be developed in the future. (e.g. displaying some data stored in BRIS on the EEAP website).

27. Summary of criteria:

Criterion 1	The EEAP should ensure easy search for regulated information
Criterion 2	The EEAP should ensure an easy access to regulated information for all listed companies
Criterion 3	The EEAP should ensure adaptability to changes in technologies, provide adequate availability support level, and ensure the integrity of the information exchanged.

3.3 Technical Requirements

28. This section of the CP defines detailed requirements in bold and provides explanations or examples in relation to those requirements.

29. For the purpose of this section, the term of "metadata" should be read in the context of the RTSs on common format for the delivery of regulated information (section 4 of this CP), i.e. information on issuer's name and unique identifier, type of regulated information and hyperlinks.

3.3.1 Easy search for regulated information

30. **Search criteria: 'The EEAP shall enable end-users to search for regulated information stored by an OAM using the following search criteria[8]:**

    a. **The name of the issuer from which the regulated information originated;**

    b. **The unique identifier of the issuer as defined by the RTS on the unique identifier[9];**

    c. **The HMS of the issuer;**

[8] Article 1 (1) of draft RTS on the EEAP
[9] Section 3 of this CP

d. **The regulated information as classified by the RTS on the common classification of regulated information[10]'** .

31. Except for the requirement on the storage of the unique identifier and the HMS of the issuer which are new requirements, OAMs already store the metadata on this information as this list is aligned with the requirements set out in Point 20.3 of the Commission Recommendation of 11 October 2007 on the OAMs.[11]

32. **Multi-language search: 'For the purpose of the search of the name of issuer, the EEAP shall enable its search in all available language versions of the issuer's name that are stored by an OAM and enabled to the EEAP'[12].**

33. In order to ensure an easy search of regulated information regardless of where the investor may be located the search facilities of EEAP should allow the search of the issuer's name in all the available languages stored by the OAMs.

34. As the metadata enabling the search will be provided by OAMs, the search facilities are dependent on the linguistic versions of the metadata stored and made available by OAMs to the EEAP. The search engine may also need to use transliterations (i.e. conversion between non-Latin and Latin characters) to facilitate searches using national character sets. However, in order to avoid inaccuracy of the search results, the EEAP will not translate the metadata provided by OAMs.

35. **The EEAP search results: The EEAP shall provide search results, in accordance with the search criteria selected by end-users, in the form of a list of metadata as prescribed by Article 7 (2)'.[13]**

36. When an end-user selects the name of an issuer/unique identifier as the search criterion, the EEAP shall display metadata on the issuer which will include links for the specific OAMs' website where regulated information of that issuer can be accessed. In the cases where regulated information is stored in more than one OAM, the results

[10] Section 5 of this CP
[11] The Commission Recommendation of 11 October 2007 (2007/657/EC) on the electronic network of officially appointed mechanisms for the central storage of regulated information referred to in Directive 2004/109/EC of the European Parliament and of the Council
[12] Article 1 (2) of draft RTS on the EEAP
[13] Article 1 (3) of draft RTS on the EEAP. The metadata referred in Article 7(2) shall include hyperlinks to the webpage of the OAM containing hyperlinks which enable the visualization and/or download of documents containing regulated information.

should display all the links where this information can be accessed and identify the issuer's HMS enabling the end-user to choose between the links provided.

37. If an end-user selects the HMS as the search criterion, the end-user will receive as a result a link to the respective OAM's webpage where a list of issuers which have chosen that country as HMS should be displayed.

38. End-users may use the type of regulated information to focus their search to the required type of information, for example, if an end-user searches for annual financial reports of a specific issuer, the end-user should receive on the EEAP website, metadata on the issuer (name and unique identifier), type of regulated information (as classified by the RTS on the classification of regulated information) and a link to the specific page on the OAM's website where annual financial reports may be accessed.

Q1. Do you agree with the proposed search criteria? If not, what other search functionalities should the EEAP provide to end-users?

3.3.2 Easy access to regulated information

39. **Access to document: 'The EEAP shall provide end-users with the metadata on regulated information stored by an OAM in accordance with Article 21(1) of Directive 2004/109/EC and enabled to the EEAP.**

The metadata referred in the above paragraph shall include hyperlinks to the webpage of the OAM containing hyperlinks which enable the visualization and/or download of documents containing regulated information, including all language versions of such documents, disseminated by issuers and stored by an OAM in accordance with Article 21(1) of Directive 2004/109/EC'.[14]

40. As the EEAP will only access the data stored by OAMs there is no need for archiving and data retention policy at the EEAP level. Regardless of any European or local requirements on data retention, the EEAP should provide access to all the regulated information stored by OAMs.

41. The EEAP end-users should have access to all versions of the documents that have been disseminated and stored by the OAMs. If a document was modified after its initial

[14] Article 2 (1) and (2) of draft RTS on the EEAP

publication, all versions of the published document should be provided to the end-users via the OAM website. Consequently, OAMs should provide access to all versions of the documents disseminated including the latest version as well as all previous versions of the document. This requirement is aligned with Point 8.3 of the Commission Recommendation of 11 October 2007.[15]

42. Furthermore, the EEAP end-users should have access to all language versions of the document stored by OAMs. Following the Commission Recommendation of 11 October 2007[16] on OAMs, OAMs should facilitate the access to all the available linguistic versions of the information as submitted by the issuer. Therefore, ESMA is of the view that the EEAP should, as well, provide access to regulated information to investors in all available linguistic versions of the information stored by OAMs.

43. **Free of charge access to regulated information: 'The EEAP shall provide access to metadata on regulated information to end-users free of charge. However, the visualisation and/or download of a document containing regulated information will, in each case, be subject to the pricing policy of the OAM concerned'.**[17]

44. In accordance with the Commission Recommendation of 11 October 2007, OAMs should be free to establishing their own pricing policy provided that they will not discriminate between end-users depending on whether they are accessing information through their websites or the EEAP. Furthermore, OAMs should consider granting free of charge access to investors or interested parties in relation to regulated information, at least, during a certain period following the filing by an issuer.

45. Information gathered from OAMs shows that, in most of them, regulated information is accessible free of charge. However, considering the diversity in practice and the possibility that national laws as well as the OAMs' pricing policies change without ESMA's control or responsibility, the visualisation and download of documents stored by OAMs will continue to be dependent on the OAM's pricing policies.

[15] Point 4.2 of the Commission Recommendation of 11 October 2007 on the electronic network of officially appointed mechanisms for the central storage of regulated information referred to in Directive 2004/109/EC of the European Parliament and of the Council

[16] Point 18 of the Commission Recommendation of 11 October 2007 on the electronic network of officially appointed mechanisms for the central storage of regulated information referred to in Directive 2004/109/EC of the European Parliament and of the Council

[17] Article 2 (3) of draft RTS on the EEAP

46. Where this information is not provided free of charge, the EEAP end-users should not be discriminated when compared with the OAMs end-users in pricing and in access to documents containing regulated information. The EEAP end-users should also have access to the pricing policies of an OAM. The pricing policies should be provided by OAMs in accordance with their internal procedures and practices.

47. **Multi-platform access (via various devices): 'The EEAP shall, as far as practicable, provide access to end-users through various types of browsers and devices, including mobile devices'[18].**

48. ESMA believes that the EEAP should use commonly accepted standards like W3C and take into account development approaches such as the Responsive Web Design.[19] This would ensure easy access to the EEAP and search for regulated information regardless of the software used by end-users (e.g. different web browser) or hardware platforms (e.g. personal computers, tablets or mobile phones). It should also be noted that even if the search functionality provided by the EEAP can be designed to be usable through various platforms, the access to documents will continue to be provided by OAMs, thus the usability of their websites is ensured by OAMs' operators and as such ESMA cannot guarantee access to the documents via all devices.

Q2. Do you agree with the requirements to ensure an easy access to regulated information?

3.3.3 Technologies used, availability and support

49. **Technologies used: 'The EEAP shall use communication technologies which ensure the security and integrity of the metadata on regulated information exchanged between an OAM and the EEAP.**

Subject to the requirement referred to in the paragraph above to ensure security and integrity, the EEAP shall use the HTTPs protocol to connect to an OAM'. [20]

50. The communication channel between OAMs and the EEAP should be secure to prohibit external parties to manipulate any data and metadata exchanged between

[18] Article 2 (4) of draft RTS on the EEAP
[19] Responsive Web Design (RWD) is a web design approach aimed at crafting sites to provide an optimal viewing experience, easy reading and navigation across a wide range of devices (from mobile phones to desktop computer monitors).
[20] Article 3 (1) and (2) of draft RTS on the EEAP

OAMs and the EEAP. In particular any documents and metadata cannot be manipulated by the EEAP, so that ESMA is not responsible for the content and quality of the information (i.e. correct and up-to-date metadata of documents).

51. Based on the technologies currently used in the market, the EEAP should use the HTTPs protocol to connect to an OAM. However, as communication technologies are constantly developing, ESMA should take this aspect into due account when implementing the RTS.

52. **Scalability: The EEAP shall be easily scalable and adaptable to changes in the volumes of search requests and data to be indexed.** [21]

53. As the information stored by OAMs may increase significantly, the EEAP should be easily adaptable to the changes in the volumes of search requests and metadata indexed.

54. **High availability: 'ESMA shall implement the necessary infrastructure to ensure the high availability and usability of the EEAP[22]'.**

55. It should be noted that, due to the connection of the EEAP with some 30 OAMs, it is not possible (at acceptable cost) to achieve a level of availability of 95% or above for the whole network (the EEAP and OAMs altogether). Therefore, this high availability requirement should be considered as the availability of the EEAP website only.

56. **Service continuity / ease of recovery: 'The configuration, parameters and data of the EEAP shall be backed up on a regular basis. In the event of a system failure, the EEAP shall be restored exactly as it was before the last back up'[23].**

57. In order to minimise the impact of potential disruption of functioning of the search functionality, ESMA should take the appropriate measures to back up the necessary information related to the EEAP. This backup will allow an easy restoration of the service and should be done on a daily basis.

[21] Article 3 (3) of draft RTS on the EEAP
[22] Article 3 (4) of draft RTS on the EEAP
[23] Article 3 (5) of draft RTS on the EEAP

58. **Support level: "Support for the EEAP users and an OAM's operator shall be provided, at minimum, by way of an email response from the EEAP. Such response shall be provided within ESMA working hours."**[24]

59. ESMA believes that such support level is sufficient to deal with problems related to the service provided by the EEAP, as it is expected that the support will mainly be related to the search facility. The access to documents will be done at the OAMs' level, and thus, OAMs should provide the necessary support to solve issues related to the access.

Q3. Do you agree with the requirements on technologies used, availability and support?

3.3.4 Technical infrastructure

60. In order to set out the technical requirements for the EEAP, ESMA has identified the choice of the technical infrastructure for the development of the EEAP as a key element that should be investigated along with the RTS on the EEAP. This aspect is of particularly importance as the requirements for OAMs and the EEAP should be aligned with the infrastructure chosen.

61. On this basis, ESMA considered several technical options for developing a pan-European storage system for regulated information studied in previous reports of CESR[25] and the Commission.

62. Following the legal requirements introduced by the TDA in 2013, ESMA considers that only the scenarios listed below are relevant for the development of the EEAP:

    a. EEAP Option 1: Central metadata storage;

    b. EEAP Option 2: Storage of issuers metadata;

    c. EEAP Option 3: Query all OAMs; and

    d. EEAP Option 4: Search engine tool.

[24] Article 3 (6) of draft RTS on the EEAP
[25] Development of Pan-European Access to Financial Information Disclosed by Listed Companies http://www.esma.europa.eu/system/files/10_791c.pdf

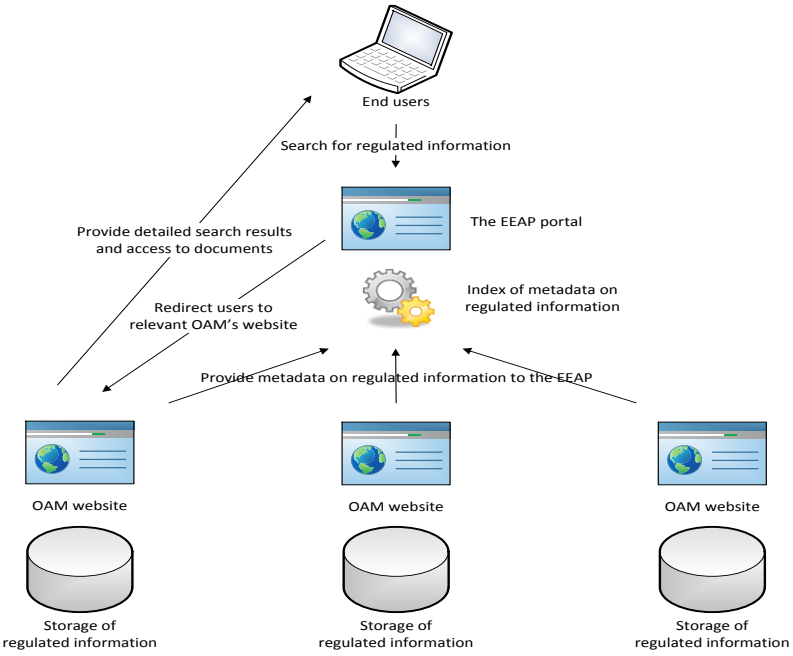
63. All the above listed options were analysed in details with regard to the implementation by ESMA and OAMs in the cost-benefit analysis (CBA) that was undertaken by ESMA. The CBA including a detailed description of all options is presented in Annex II to this Consultation Paper.

64. According to the CBA included in Annex II, Option 1 was assessed as the most cost-efficient by OAMs. However, ESMA believes that this option would lead to unnecessary duplication of storage of metadata (by ESMA and OAMs) and potentially to problems of synchronization between the information held by ESMA and OAMs. Option 2 is considered a very complex option to implement as it would require a synchronisation of the metadata of issuers stored in all OAMs and after the search for regulated information in the OAM of the HMS. Option 3 is considered as the most complex for OAMs to be implemented and could lead to long response time since every search query by end-users would lead to a search in all OAMs.

65. ESMA is of the view that Option 4 is the least complex and the most cost-efficient option to implement when considering the overall costs for ESMA and OAMs. It also follows current technology trends and best practices to set up IT systems of functionalities similar to the EEAP.

66. The following figure illustrate how the EEAP should work under option 4:

Figure 2 – the EEAP system



Q4. Do you agree with the technical infrastructure chosen by ESMA?

3.3.4.1 Potential approaches to implement the selected option

67. ESMA believes that Option 4 may be implemented differently. The following two sub-options may be considered:

68. Option 4.a)To build the EEAP web portal by ESMA. In this case the EEAP would be developed using the technologies specified by and then maintained by ESMA.

69. Option 4.b) To outsource the development and/or hosting of the EEAP web portal to one of the providers of commercial search engines (e.g. Google, Yahoo, Bing, Yahoo Finance, etc.) This option foresees that the EEAP would be developed as a standalone website with its own URL, which would contain all search criteria defined by these RTS to search for regulated information through all OAMs. The search results would provide the same information as if the portal would be developed by ESMA.

    However, as a prerequisite (which may need further legal analysis at the implementation phase) all OAMs should let the commercial search engines provider to index their contents, and the technologies used to implement the web site would be those selected and eventually already used by the commercial search engine provider (s). Thus, it is expected that this sub-option would not require the implementation of any specific custom technologies to perform searches or to set up the EEAP.

70. In the CBA, ESMA estimated only the cost for the first of the described above scenarios (sub-option 4a) as it was not possible to collect information on potential costs for sub-option 4b.

71. Subject to a cost and benefits analysis, ESMA considers that sub-option 4b may be less expensive to implement as it would allow the re-use of one or more already existing search engines which may lead to a decrease in the total cost of the EEAP development. Additionally, the EEAP could leverage on the visibility of those commercial search engines to build up the awareness and usability of the EEAP among end-users who might already be familiar with the technology used by those commercial service providers.

3.3.5 Abandoned Search Criteria

72. When defining the search criteria that the EEAP should provide, ESMA considered additional functionalities that could provide end-users with relevant information for their decision making process. In this assessment, ESMA considered whether the information currently stored by OAMs following the provisions of the TD and the *Commission Recommendation of 11 October 2007* would enable the EEAP to set up those requirements, and whether the expected implementation costs would be proportionate compared with the usefulness and accuracy of the information provided if those functionalities were implemented.

73. The following requirements were discussed but afterwards abandoned. However, this preliminary assessment does not preclude ESMA from setting out more search functionalities if different end-user's needs are identified after the feedback received to this consultation paper or during the implementation of the EEAP, provided that expected benefits outweigh the implementation costs.

74. **Providing a search criterion per type of instrument (e.g. shares or bonds).** ESMA discussed whether the EEAP should provide a search criterion based on the type of instrument. This criterion would allow end-users to access the regulated information based on the type of instruments that are admitted to regulated market. This could be especially helpful if end-users would like to search for regulated information provided by bond issuers in a specific market. However, when analysing the responses obtained by OAMs on the metadata stored and the search capabilities that they provide, ESMA considered that this requirement should not be included in the RTS. Based on the survey's results that were conducted, very few OAMs mentioned that they differentiate issuers by the type of instruments issued. Moreover, managing data relating to the securities of particular issuers is difficult to compile and update on a real-time basis at EU level given the extent of such data and the lack of a reliable database regarding securities at EU level identifying the relevant issuers.

75. **Providing search criterion using the Instrument identifier (ISIN).** Although ESMA acknowledges that this search criterion could be important for end-users, it should be noted that over half of the OAMs do not store such information. Additionally, some issuers (e.g. financial institutions) may issue a large number of instruments and therefore the cost of maintaining the list of instruments along with relationships

between issuers, instruments and published documents can be significantly burdensome not only for OAMs but also for issuers.

76. **Providing search criterion by sector/industry**. Although the industry/sector metadata would ease comparison of issuers operating in the same industry/branch, there is a significant diversity in industry/branch categorisation. Concurrently, as this information is not stored by most of the OAMs, to enable this functionality the EEAP would need either to store this information itself or require OAMs to do it on its behalf. As the EEAP should only provide access to the information currently stored in OAMs, without storing metadata, this requirement would create not only an obligation for OAMs but also for issuers which would need to follow a predefined standard categorisation and update it where necessary.

77. **Providing a full text search**. ESMA acknowledges that providing this functionality would allow end-users to search information inside the content of documents. However, we believe that not only this functionality would be very costly (as it would require significant changes to the infrastructures of OAMs, for instance to implement Optical Character Recognition (OCR) for some documents). It would also require a central storage of documents which is not possible taking into account the empowerment granted to ESMA.

78. **European Single Electronic Format (ESEF) format requirements.** ESMA was empowered by the TDA to develop RTS on ESEF. ESMA expects that the introduction of the ESEF will allow for more automated extraction and analysis of financial data, providing to end-users not only with the financial reports but also with structured data. Nevertheless, it is not possible to take into account such functionalities in the EEAP RTS before the ESEF itself is defined; its adoption date by the Commission is set for 2017 and implementation date is set for 2020. Therefore, the EEAP shall only provide the basic functionality of search and download of financial reports as they are currently stored and displayed by OAMs. The addition of any other functionality regarding the ESEF format may be reconsidered at a later stage.

Q5. Do you agree with the abandoned list of requirements? If not, which one (s) should ESMA reconsider? Please provide your reasoning

Q6. Are there any other requirements not mentioned in this section that should be considered by ESMA? Please provide your reasoning

4 Section II – RTS on communication technologies used by OAMs

4.1 Introduction

79. Article 22 (1) (a), empowers ESMA to draft RTS to specify technologies used by OAMs. As these RTSs should set common requirements on the access to regulated information at Union level, ESMA is of the view that those requirements should set the technologies used by OAMs to ensure the connection to the EEAP.

80. OAMs may use different technologies to operate their websites and databases; ESMA believes that these RTS should not impose changes in the technologies used by OAMs unless that these technologies affect the correct functioning of the EEAP. In addition, in order to enable the access by the EEAP to regulated information, OAMs should implement the necessary measures to facilitate the access to regulated information in a common standard taking also into account the infrastructure chosen for the development of the EEAP.

4.2 Background to the requirements

81. The TDA does not provide any detailed legal requirements regarding types of communication technologies that should be defined in the RTS. Therefore, these shall be developed by ESMA taking into account the requirements defined in the previous section with regards to the proposed infrastructure for the EEAP development of the EEAP.

82. ESMA believes that the RTS should recommend specific technologies to be used by OAMs across Europe. Furthermore, IT standards and best practices regarding the information systems development [26] should also be considered to ensure that the interface between OAMs and the EEAP is built using reliable communication

[26] Several standards and sets of best practices might be considered as a reference, e.g. ISO/IEC 25010:2011 or CISQ's quality model. Those best practices usually define characteristics / requirements which should be considered while developing information systems (e.g. reliability, efficiency, scalability, security, maintainability, usability, etc.).

technologies allowing not only an easy implementation of the requirements but also efficient maintenance and incorporation of potential changes to the EEAP in the future.

83. Similarly to other IT systems, the security of data is deemed of particular importance when developing the EEAP. Although regulated information is in principle publicly available, either on the OAMs' or the issuer's websites, ESMA believes that certain security measures should be implemented in order to ensure the integrity of the data to be transmitted between OAMs and the EEAP and prevent its loss or corruption. In addition, a high accuracy of search results can only be achieved if information delivered by the EEAP fully reflects the content stored and provided by OAMs.

84. Therefore, ESMA sets out the following criteria to guide the development of the RTS on communication technologies used by OAMs.

- **Criterion 1** – the requirements defined in the draft RTS should ensure that **technology standards used** by OAMs ensure easy integration to the EEAP and security of the information provided.

85. When developing IT systems, it is also important to consider the procedures aimed at ensuring the minimum level of system operation and support to end-users.

86. The EEAP will consist of two key components: the central web portal with the search engine and the connections to all OAMs. Both components are critical to ensure the correct functioning of the EEAP. Therefore, ESMA believes that it is necessary to introduce common requirements with regard to the support level to be provided by OAMs.

87. In addition, as presented in the previous section of this CP, ESMA proposes a set of requirements specifying on how regulated information should be made available to the EEAP users, including specifications of the search functionalities and the search results that should be provided. In order to ensure that this information is enabled to the EEAP and that the requirements defined in the previous section are implemented, the OAMs, as entities in charge for the storage of that information, should also implement certain technical requirements.

88. Regarding the scope of the information, only the information that was previously made available to the EEAP by OAMs can become searchable via the EEAP. Potential

differences between OAMs may relate to a range of documents stored, or methods of storing different versions of a single document, or languages.

89. However, ESMA believes that although the RTS on the EEAP should not impose requirements on OAMs on the scope of information on issuers (as OAMs may continue to store more information on issuers) and how that information is stored, the RTS should nevertheless ensure that the regulated information is enabled by OAMs to the EEAP in a standard way and mirrors the same information stored and displayed at national level by OAMs.

90. Therefore, in order to ensure that the search results are provided consistently across Europe regardless of which OAM stores regulated information of a specific issuer, ESMA proposes the following criterion:

- **Criterion 2** – the requirements defined in the draft RTS should define minimum requirements **to facilitate the access by the EEAP to the information** stored by OAMs.

91. Summary of the criteria:

Criterion 1	OAMs should use technology standards that ensure an **easy integration** to the EEAP and the **security** of the information exchanged.
Criterion 2	OAMs should implement minimum requirements **to facilitate the access** by the EEAP to the information stored by OAMs

4.3 Technical Requirements

92. This section of the CP defines detailed requirements in bold and provides explanations or examples in relation to those requirements.

93. For the purpose of this section, the term of “metadata” should be read in the context of the RTSs on common format for the delivery of regulated information (section 4 of this CP), i.e. information on issuer’s name and unique identifier, type of regulated information and hyperlinks.

4.3.1 Technology used, support and maintenance

94. OAMs should use standard technologies and sound security mechanisms to ensure the security and reliability of the means of communication with the EEAP, in particular those technologies should ensure the certainty of the source and minimise the risks of corruption of the information exchanged with the EEAP.

95. Various technologies can be used for building different data exchange interfaces. The most widespread solutions (already used by some OAMs) include:

96. **File transfer protocols (sFTP/FTPs):** These protocols are standard network protocol used for secure transfer of files from one host to another host. These protocols are especially suitable for exchanging large data volumes.

97. **Web services / HTTP protocol:** It is a method of communication between two applications. A web service is a function provided at a network address over the Internet (or another network) allowing machine-to-machine interaction. It usually provides access to specific business functionality. The messages are typically conveyed using HTTP/HTTPs protocol and XML-based format.

98. **Direct links between databases (dblinks):** So called dblinks allow for direct querying of remote databases (i.e. access by end-users or applications to data stored in remote databases). However unlike integration via file transfers or web services, dblinks are strongly dependent on the internal structure of the interconnected databases (dblink does not provide any abstraction layer – the native structure of the remote database should be used when querying the data). Using dblinks will require setting up specific connection to each OAM and adapting that connection in case of any changes either in OAMs or the EEAP system. Therefore, ESMA believes that this technology is not reliable enough as it may lead to maintenance and security issues in the future.

99. The first two of the above mentioned technologies (i.e. sFTP/FTPs, web services enabled over sHTTP) are the solutions which are commonly used for system integration, in particular for information exchange between remote counterparties over Internet. They were also indicated by OAMs as preferred solutions to be used in the development of the connection to the EEAP.

100. **Technology standards: 'An OAM shall use the HTTPs protocol to connect to the EEAP.**

However, if for reasons of security or integrity the EEAP ceases to use the HTTPs protocol for the purpose of establishing the connection with the OAMs, each OAM shall implement forthwith all necessary technological measures to ensure the on-going security and integrity of its connection to the EEAP.

In particular, each OAM shall use communication technologies which are compatible with the new protocol used by the EEAP'.[27]

101. Taking into account the option for the infrastructure presented in the previous section, and considering that sFTP/FTPs protocols may lead to more delays in the data exchange when compared with other technologies. In order to provide access to the metadata on regulated information stored by OAMs, ESMA proposes that OAMs shall use HTTPs protocol to connect to the EEAP.

102. **Service capacity and availability: 'An OAM shall implement the necessary infrastructure to ensure the high availability of its connection to the EEAP'.** [28]

103. The EEAP as a system interconnecting local OAMs will be highly reliant on the information provided by OAMs. Any disruptions of the connections between OAMs and EEAP may affect the quality of the search results provided by the EEAP. Therefore, OAMs shall implement the necessary changes to its systems to ensure its connection to the EEAP is not disrupted. In case of the unavailability of any of the OAMs such information should be provided to end-users by the concerned OAM.

104. **Service support: 'An OAM shall provide service support, within their working hours, for the purposes of the maintenance of the connection between the OAM and the EEAP, and of incident escalation'.**[29]

105. In order to deliver high quality service to EEAP users (e.g. to inform on the current availability of the network and the completeness of the search results), ESMA should be notified by OAMs on any scheduled or unscheduled unavailability of the connection.

106. OAMs also need to allow ESMA to escalate any service issues related to the operation of the connection between the EEAP and OAMs and to inform ESMA on the progress of the issues resolution.

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[27] Article 4 (1) of draft RTS on the EEAP
[28] Article 4 (2) of draft RTS on the EEAP
[29] Article 4 (2) of draft RTS on the EEAP

107. Although this requirement is related to the support that OAMs shall provide to the EEAP, OAMs may also need to adjust their current support procedures to a potential increase of the number of end-users of their websites who will be directed to OAMs by the EEAP.

108. **Change management procedures: 'An OAM shall make necessary changes to its management and implementation procedures in order to ensure that its connection to the EEAP is not negatively impacted by changes to its internal systems'.**[30]

109. Additionally, OAMs' systems may evolve over time in order to adapt to new requirements coming from local regulations or addressing the requests of the OAMs users. However, any changes in the OAMs' systems must not affect the operation of the EEAP. Therefore, OAMs' should adapt their internal procedures to ensure that in case of any changes to their systems or technologies, the connection to the EEAP is properly tested and any discovered flaws are fixed.

Q7. Do you agree with the requirements on the technologies used, support and maintenance for OAMs?

4.3.2 Facilitation of access to regulated information

110. **Access to regulated information: 'An OAM shall ensure that metadata on regulated information can be indexed by the EEAP.**

An OAM shall enable the EEAP to access the metadata on regulated information stored by an OAM in accordance with Article 21(1) of Directive 2004/109/EC.

The metadata referred in paragraph 2 shall include hyperlinks to the webpage of the OAM containing hyperlinks which enable the visualization and/or download of documents containing regulated information, including all language versions of such documents, disseminated by issuers and stored by an OAM in accordance with Article 21(1) of Directive 2004/109/EC.

[30] Article 4 (2) of draft RTS on the EEAP

Upon any change to a stored document which contains regulated information, the OAM concerned shall update immediately the metadata on the documents containing regulated information concerned'.[31]

111. In order to comply with the mandate that was conferred to ESMA in Article 21a of the TDA to develop a portal enabling the access to regulated information, and in accordance to the provisions defined in Article 21a (3) of the TDA which states that 'Member States shall ensure the access to their central storage mechanisms', the RTS should specify how metadata on regulated information should be facilitated by OAMs to the EEAP.

112. Considering the technology structure chosen, OAMs will not need to send information to the EEAP; instead, they should allow the metadata on regulated information to be indexed by the search engine crawler. The metadata provided should also allow the end-user to access to the document displayed on the OAMs website.

113. OAMs shall implement the procedures necessary to ensure that the metadata on documents and issuers enabled to the EEAP crawler is available immediately after a document containing regulated information is stored.

114. **Free of charge: 'An OAM shall not charge for the access by the EEAP to metadata on regulated information. The visualisation or download of documents containing regulated information by the end-user will be subject to the OAM's pricing policy.**

However, an OAM shall not discriminate in its pricing policies between end-users who access information directly through the OAM's website and end-users who access information indirectly through the EEAP'.[32]

115. In the cases where the access to documents containing regulated information is not free of charge, the OAMs should provide information to end-users on their pricing policies in accordance with their internal procedures and practices.

Q8. Do you agree with the requirements to facilitate the access to regulated information?

[31] Article 5 (1), (2) , (3) and (4) of draft RTS on the EEAP
[32] Article 5 (5) of draft RTS on the EEAP

Section III – RTS on the use of unique identifier

4.4 Introduction

116. The TDA includes provisions empowering ESMA to draft technical requirements on the definition of a unique identifier for each issuer that shall be used by OAMs. ESMA believes that a unique identifier will bring significant benefits to end-users, NCAs and issuers with expected limited costs of implementation.

117. ESMA is of the view that such unique identifier is particularly important for the EEAP as it will contribute considerably to enhancement of both the accuracy and speed of the search of regulated information by end-users. This is because running queries based solely on issuers' names could lead to inaccurate or ambiguous results, whilst searching for a specific issuer based on existing identifiers used by different OAMs would be more complex to implement as it would oblige the EEAP to establish IT controls or tables of reference between diverse set of national identifiers.

118. NCAs will also benefit from the introduction of a unique identifier. At the moment, supervision of issuers pursuant to the TD is fragmented at the European level and determining each issuer's HMS (and thus its competent authority) is challenging as there exists neither a central database that captures the HMS of each issuer listed on a regulated market, nor a regular mandatory exchange of information between competent authorities in that regard. Therefore, the use of a unique identifier by the EEAP will help NCAs to identify all issuers under their supervision and under the supervision of other NCAs, fostering supervisory convergence by enabling NCAs to clearly identify issuers subject to enforcement of the TD provisions.

119. On the issuers' side, the use of the unique identifier is likely to increase their visibility among potential investors, helping them to obtain information about competitors and potentially reduce their compliance costs if different European systems, such as the BRIS, use the same identifier in the future.

4.5 Background to the requirements

120. The TDA only stipulates the requirement to use a unique identifier for each issuer. On this basis it is possible to ascertain two criteria regarding the identifier. Following

paragraphs explain in detail ESMA reasoning when assessing both criteria on the unique identifier for each issuer.

121. **The identifier should be unique per issuer.** The TDA applies to all issuers as legal entities, contrary to other legal requirements which apply to securities. Identification thus needs to be inseparable from that legal entity (i.e. issuer) and be separate and distinct from other entities which might in their own right also be issuers (e.g. an issuer's parent company). In order to ensure unambiguous identification of the relevant entities, it is vital that the identifier is unique to the issuer concerned. In other words, one identifier cannot be assigned to two different issuers and each issuer can only have one single identifier, as multiple identifiers per issuer would undermine the identifier uniqueness and as a consequence the compilation of data at EU level. Given that the requirements of the TD relate to the issuer as legal entity, the identifier in question needs to be directly linked to that entity and can as a consequence not be linked to or dependent on any other factors, such as for example the issuers' securities.

122. **The identifier should be unique in time**. A mistake-free identification requires uniqueness and consistency in time. As such, the identifier needs to be linked inseparably to the issuer and should not change over time and should cease to exist only if and when the legal entity to which it relates ceases to exist. Consequently, a particular identifier previously used for an issuer whose securities may no longer be admitted to trading should be re-used in the event that the same issuer in the future falls within the scope of the TD.

123. **The identifier should be unique at international level allowing consolidation of data.** The identifier also needs to be unique at international level allowing consolidation of data, particularly in the context of the pan-European project merging data from issuers incorporated in countries across the world. Therefore, only one single identifier can be assigned to each issuer at international level and that the use of the same type of identifiers which might be unique at Member State level (e.g. reference number assigned by NCAs or OAMs) is not feasible as this would lead at international level to multiple identifiers for one single entity. This criterion moreover ensures that an entity which transfers its registered office from one country to another keeps the same identifier. This is particularly important given the issues arising around companies' mobility, notably in light of the increasing use of the company type Societas Europaea (SE) which can register in any Member State of the European Union and transfer to other Member States.

124. **The identifier should be a pan-European standard accepted by all Member States**. In particular, this should not preclude current national identifiers of becoming pan-European identifier, if accepted by all Member States.

125. **The identifier should be assigned by an entity performing relevant quality checks.** For the identifier to fulfil the requirements of uniqueness it needs to be assigned by an entity which is independent and able to ensure relevant quality checks when assigning those identifiers, e.g. ensuring that there is no duplication of identifiers.

- **Criterion 1** – The identifier used is **unique** for each issuer;

126. As the TDA requires all issuers subject to its requirements to use the unique identifier, further aspects should be considered:

127. **The identifier should be assigned to any issuer (independently of its country of incorporation).** First of all, the TD not only covers issuers incorporated in one of the Member States, but also from third countries. The type of identifier chosen thus needs to be able to be assigned to those third country issuers without any risk of lower quality standards applying regarding the identification of those issuers. In fact, the identification of third country issuers often provides the biggest challenges to supervisors. In order to avoid unnecessary administrative burden and possible negative consequences on the attractiveness of an EU regulated market for third country issuers, the type of identifier chosen needs to be a commonly accepted standard in third countries. As a consequence it is vital that the unique identifier can be assigned to any issuer, without regard to its country of incorporation, be it inside or outside the European Union.

128. **The identifier should be assigned to natural persons.** Any type of legal entity covered by the scope of 'issuer' as defined by the TDA needs to be covered by that identifier. Consequently, a company, a State, a regional or local authority of a State, a public international body, a trust or a registered business association without legal personality can be the issuer pursuant to the definition provided by the TDA.

In addition, the TDA provides in Article 2(1) (d) that:

> 'issuer' means a natural person, or a legal entity governed by private or public law, including a State, whose securities are admitted to trading on a regulated market.

Therefore, in some Member States, issuers can also be natural persons. However, currently, there are no identification numbers used for both legal entities and natural persons at Union level. Therefore, an alternative might consist for instance in the development of a new code to cover natural persons.

129. **The costs relating to the identifier should be proportionate.** Even though there is no direct requirement in the TDA in this regard, ESMA gave due consideration to the costs and potential savings related to the use of the identifier as it applies to all issuers that fall within the scope of the TDA, independently of their characteristics such as size, type of securities listed or possible exemptions. When assessing this criterion, ESMA has considered potential costs savings related to the introduction of different identifiers by other regulations.

130. **The identifier should offer a long term perspective.** Finally, as the identifier required to be used by each issuer is one of the pillars necessary for the correct functioning of the future EEAP, the option chosen should be 'fit for future'. Therefore, the option retained needs to have a long term perspective and should not be based on outdated standards.

- **Criterion 2** – The identifier is required to be used for the identification of **each issuer**.

131. Summary of the criteria:

Criterion 1	The identifier should be **unique** per issuer
Criterion 2	The identifier is required to be used for the identification of **each issuer**

4.6 Technical Requirements

132. This section of the CP defines detailed requirements in bold and provides explanations or examples in relation to those requirements.

133. **Unique identifier (Legal entities): 'An OAM shall use the LEI as the unique identifier for each issuer'.**[33]

[33] Article 6 (1) of draft RTS on the EEAP

134. When developing the RTS on the unique identifier, ESMA has considered the wide use of codes. As such codes may serve a multitude of purposes, including operational standardisation, cost-effective reporting, easier searches and analysis of the data, and increasing the efficiency in the overall reporting chain, ESMA assessed several options already in place in the European markets against the criteria previously explained. Those codes included: LEI, BIC/SWIFT, national business register identifier(s), BRIS identifier, identifiers used by NCAs or national OAMs, and ESMA developing a new identifier.

135. In addition to the assessment referred above, ESMA also took into account that the LEI is already required by other legislation on securities markets such as EMIR, and its use will be most likely extended following the entering into force of the requirements for MiFID II/MiFIR. Therefore, ESMA concluded that the LEI would be the best option for the purpose of the creation of a unique identifier in accordance with Article 22(1)(c) of the TDA.

136. The LEI is an identification code that enables consistent and accurate identification of all legal entities that are parties to financial transactions, including non-financial institutions. It enables a legal party to a financial transaction to be identified precisely. The LEI links back to a data set of critical information about the transacting entity which can also include information on the ultimate ownership of the entity. The LEI is a global and unique entity identifier and should provide meaningful long-term benefits for both the public and private sectors. This global standard was endorsed by the G-20 group of nations and is consistent with the specifications put forward by the International Organization for Standardization (ISO 17442:2012) in May 2012.

137. **Unique identifier (natural persons): 'Where the issuer is a natural person and is not eligible for LEI, an OAM shall use the CONCAT code as a unique identifier.**

The code referred in the previous paragraph shall be composed of the following elements which shall appear in capital letters: isocode – birthdate – firstname – surname, where:

a. **ISOCODE is the ISO 3166-1 alpha 2 code of the person's nationality,**

b. **BIRTHDATE is the birth date of the person in the following format YYYYDDMM,**

c. **FIRSTNAME is the first five letters of the person's first name,**

d. **SURNAME is the first five letters of the person's surname.**

e. **A first name or surname shorter than five characters should be appended by such number of the letter 'X' as will ensure that the element referring to the first name or surname contains five characters.**

f. **All characters in the code shall be written in upper case format.**

g. **All codes shall have exactly twenty characters'.**[34]

138. For example, Dan Johnson, born 16-08-1977, with UK nationality, should be encoded as 'UK19770816DANXXJOHNS'.

139. ESMA expects that the use of the unique identifier by natural persons (which is also included in definition of the 'issuer' by the TDA) will be very rare because such situations whereby natural persons issue securities listed on regulated markets are very uncommon. Therefore, considering that the LEI is currently only applicable to legal entities, we believe that the benefits of developing a complete new unique identifier with the single purpose of extending its coverage to 'natural persons' will not outweigh the expected costs.

140. Moreover, ESMA acknowledges that a project to extend the use of the LEI to natural persons is currently under discussion by the Legal Entity Identifier Regulatory Oversight Committee (LEI ROC) which is responsible for the governance of the global LEI system. However, the outcome of this discussion, the expected timelines for its development and entering into force of this extension are still unknown. ESMA considers that, in the meantime and as transitory regime, in the case of natural persons, the use of LEI should be replaced by the CONCAT code. The use of this code is aligned with the requirements that will be set out by the MiFIR regulation.

Q9. Do you agree that the LEI should be used by OAMs as the unique identifier for each issuer?

[34] Article 6 (2) and (3) of draft RTS on the EEAP

Q10. Do you agree that in absence of LEI corresponding to a natural person, an OAM shall use the CONCAT code as the unique identifier?

5 Section IV – RTS on the Common format for the delivery of regulated information

5.1 Introduction

141. The TDA does not provide any detailed legal requirements regarding the common format that should be defined in the RTS developed by ESMA, thus when interpreting the mandate under Article 22(1)(d) of the TDA, ESMA also took into account the empowerment conferred to ESMA in the development and operation of the EEAP in accordance with article 21a of the TDA.

142. Consequently, the requirements on the common format for delivery of regulated information by the OAMs were drafted in the context of exchanging information with the EEAP and not in the context on how regulated information should be delivered to end-users. Considering that the EEAP shall operate as a web-portal interconnecting all OAMs, with no storage capacity for regulated information documents, the format should be defined as the harmonised set of metadata necessary to provide fast and easy access to regulated information stored by OAMs.

143. Therefore, the RTS on the EEAP will not impose requirements on OAMs with regard to the format used to store and to display metadata on regulated information in their websites, allowing them to continue the use of the procedures and formats that are currently in place.

144. When defining the requirements on the common format, ESMA took into account the requirements on the architecture and search criteria described in this paper in the Section II on the technical requirements for the operation of the EEAP. Notably, the recommended infrastructure requires OAMs to make metadata on the stored regulated information available to be indexed by the web crawler.

5.2 Background to the requirements

145. It is possible to define two criteria that should guide the development of the RTS on the format to be used by OAMs. In accordance with Article 22(1)(d), the format for the exchange (as distinct from the storage of metadata used by OAMs at national level) of regulated information by OAMs should be ‘common’ which means the metadata related

to regulated information documents should be the same for all OAMs throughout the Union.

- **Criterion 1** – A common format should be used by all OAMs.

146. Furthermore, when Article 22(1)(d) refers to 'delivery', ESMA considers that this term should be read in the context of the metadata related to stored documents that shall be transferred from OAMs to the EEAP upon request by the end-user.

- **Criterion 2** – The format should be used for the **delivery** of regulated information by OAMs.

147. Summary of criteria:

Criterion 1	A **common format** should be used by all OAMs
Criterion 2	The format should be used for the **delivery** of regulated information by OAMs

5.3 Technical requirements

148. This section of the CP defines detailed requirements in bold and provides explanations or examples in relation to those requirements.

5.3.1 Common format

149. **Common Format: 'An OAM shall enable access to metadata on regulated information in the format prescribed below:**[35]

Data type	**Data field characteristics**
Issuer name (in all languages stored by an OAM)	**Free text alpha-numeric field, UTF-8 encoding**
Issuer's HMS	**2-digit country code, ISO 3166-1**

[35] Article 7 (2) of draft RTS on the EEAP and Section A of the Annex to the draft RTS

Unique identifier	**Unique identifier format**
Type of regulated information	**Taxonomy in accordance with the common list of types of regulated information as prescribed by Article 1 of Section B of this Regulation**
URL	**Alpha-numeric field. The hyperlink shall enable the access to documents containing regulated information in accordance with Article 5(3)'**

150. ESMA acknowledges that the scope of metadata stored differs among OAMs due to difference in legal requirements, operational arrangements and technical solutions used to set up the OAMs infrastructure. However, in order to ensure the operation and the access to the regulated information through the EEAP, ESMA should request OAMs to enable to the EEAP a harmonised subset of metadata.

Q11. Do you agree with the requirements on the common format of the information to be enabled to the EEAP by OAMs?

5.3.2 Delivery of regulated information

151. **Delivery of regulated information: 'An OAM shall use an XML-based format for exchanging metadata with the EEAP'.**[36]

152. When defining which format should be used to exchange metadata information, ESMA has considered XML[37] and CSV.[38] However, ESMA believes that the CSV format should be discarded as it will not allow any validation of the data exchanged which would lead to a lower quality of information provided by OAMs and eventually could decrease the level of confidence in the search results provided by the EEAP.

Q12. Do you agree with the requirements on the common format for the delivery of regulated information?

[36] Article 7 (1) of draft RTS on the EEAP
[37] Extensible Mark-up Language
[38] Comma Separate Value

6 Section V – Common classification and list of types of regulated information

6.1 Introduction

153. The TD only sets the minimum information that issuers should disclose to the market. In accordance with Article 3(1) of the TD, Member States may subject issuers to information requirements more stringent than those defined in the Directive. Thus, the TD does not provide for a fully harmonised concept of regulated information among the Member States. Furthermore, similar information requirements may have been labelled differently by different Member States or may have been subject to different disclosure standards at national levels.

154. CESR's previous study[39] on this topic concluded that a common list of types of regulated information would facilitate harmonization of the classification of stored information, which would enhance the search for regulated information at Union level. In particular, it is expected that end-users of the EEAP will have the benefit of greater accuracy of query results.

155. Consequently, the TDA requires ESMA to develop technical standards with regards to (i) a common classification of regulated information to be used by OAMs and (ii) a common list of types of regulated information.

6.2 Background to the requirements

156. Considering the requirements of the TDA, one criterion was identified to support the development of technical requirements on the classification and list of types of regulated information.

157. The classification and the list of types of regulated information should be common between OAMs, Member States, issuers and end-users. This requirement is of particular importance taking into consideration that there is a lack of uniformity across national jurisdictions about what constitutes 'regulated information'.

[39] Development of Pan-European Access to Financial Information Disclosed by Listed Companies http://www.esma.europa.eu/system/files/10_791c.pdf

158. ESMA believes that the classification and list of types of regulated information should not be exhaustive to cover all types of documents which contain regulated information. This is due to the fact that there is a divergent understanding of the scope of regulated information among Member States and NCAs. For instance, in some Member States, the information disclosed by issuers to enable the participation of holders of debt securities or shares in general meetings is within the scope of regulated information. Whereas, in other countries this information is not stored by OAMs as it differs from the other on-going transparency information because it is linked to a particular event (shareholders meetings) and, thus, their access should be ensured by issuers through other means (e.g. via issuers' websites, paper).

159. Moreover, since a few Member States may have imposed at national level more stringent requirements on top of those defined by the TD at the EU level, hence providing an exhaustive list and classification of all types of regulated information is not possible.

160. On the basis of the above, ESMA believes that the list and classification set out in the draft RTS should rather represent a **common understanding of what ESMA and NCAs believe should be included** within the scope of regulated information.

- **Criterion 1** – A **common classification and list** of types of regulated information should be defined.

161. Summary of the criteria:

Criterion 1	A **common classification and list** of types of regulated information should be defined.

6.3 Technical Requirements

162. This section of the CP defines detailed requirements in bold and provides explanations or examples in relation to those requirements.

6.3.1 Common list of types of regulated information

163. **Common List: The common list of types of regulated information, shall include the following information in relation to an issuer:**

a. **information on the choice of the HMS (Article 2 (1) (i) (iii) of the TD);**

b. **information on annual financial report (Article 4 of the TD);**

c. **information on half yearly financial report (Article of the 5 TD);**

d. **information on payments to governments (Article 6 of the TD);**[40]

e. **information on major holdings (Article 12 (6) of the TD);**

f. **information on acquisition or disposal of own shares (Article 14 of the TD);**

g. **information on the total number of voting rights and capital (Article 15 of the TD);**

h. **additional information regarding rights attached to the various classes of shares or derivative securities issued by the issuer itself and giving access to the shares of that issuer; change in the rights attached to the various classes of shares, including changes in the rights attached to derivative securities issued by the issuer itself and giving access to the shares of that issuer (Article 16 of the TD);**

i. **price sensitive information (Article 2(1)(k) of the TD, Article 6 MAD); and**

j. **information provided under the laws, regulations and administrative provisions of a Member State adopted in accordance with Article 3(1) of the TD (also Article 2(1)(k) of the TD)**[41]**.**

164. Article 22 of the TDA empowers ESMA to develop draft regulatory technical standards setting technical requirements regarding access to regulated information at Union level. Therefore, the scope of the empowerment in relation to the common list and common classification is related to the definition of 'regulated information'.

165. In this context, ESMA has taken into account the main objective of the TD, namely to ensure that issuers of securities in regulated markets within the EU provide appropriate

[40] See Article 1 (5) of TDA
[41] Article 8 (1) of draft RTS on the EEAP and Article 1 of Section B of the Annex to the draft RTS

transparency to investors through disclosure of regulated information and the dissemination of such information to the public throughout the Union.

166. Article 2(1)(k) of the TD defines 'regulated information' as all information which the issuer (or any other person who has applied for the admission of securities to trading on a regulated market without the issuer's consent) is required to disclose:

    a. under the TD;

    b. under Article 6 of MAD; or

    c. under the laws, regulations or administrative provisions of a Member State adopted under Article 3(1) of the TD.

167. Article 3(1) of the TD allows Member States, in the context of the transposition of the TD, to subject an issuer (or any other person who has applied for the admission of securities to trading on a regulated market without the issuer's consent) to requirements which are more stringent than those set out in the Directive. Such more stringent requirements would normally be measures for general application adopted by national parliaments, governments or supervisory bodies.

168. However, in some of its provisions, the TD lays down limits to Member States discretion. According to Article 3(1) TD, Member States cannot require issuers to publish periodic financial information 'on a more frequent basis than the annual financial reports referred to in Article 4 and the half-yearly financial reports referred to in Article 5 of the TD. These limits may be disregarded if certain conditions are met.[42]

169. In addition, regarding the admission of securities to a regulated market, a host Member State cannot impose on issuers more stringent requirements than those laid down in the TD or in Article 6 of MAD.[43]

170. According to the case law of the ECJ,[44] in situations where Union legislation allows Member States to take more stringent measures, Member States are free to assess how restrictive such measures should be, provided that they act within the limits

[42] See Article 3(a) of TD.
[43] It is to be noted that not all additional requirements to which issuers are subject stem from the national legislations. Certain requirements are imposed by virtue of other European directives such as the Prospectus Directive.
[44] See case C-265/12 Judgment of the Court (First Chamber) of 18 July 2013. Citroën Belux NV vs Federatie voor Verzekerings- en Financiële Tussenpersonen (FvF).

imposed by the Union legislation and in a way which is consistent with the objectives of such legislation.[45] Therefore, 'more stringent' could mean new or more rigorous requirements.

171. Some situations under the TD fall outside the remit of more stringent requirements as per Article 3(1) of the TD. Such situations include (but not limited to):

    a. Member States being given the right to exercise a choice in respect of the transposition on certain requirements;

    b. voluntary disclosure by issuers pursuant to supervisory expectations;

    c. more stringent rules imposed by the regulated markets, in the absence of national legal obligation; and

    d. more stringent obligations resulting from market practice, in the absence of national legal obligation.[46]

172. Information provided in the above situations should not be regarded as regulated information.

173. Further, the common list of regulated information needs to take into account that some regulated information under the TD has been 'discontinued' under the TDA, but could nevertheless be treated as an additional information under the requirements of Article 3(1) of the TD as discussed above. This applies to the publication of periodic financial information 'on a more frequent basis than the annual financial reports referred to in Article 4 and the half-yearly financial reports referred to in Article 5 of the TD and to new loan issues which were deleted by Article 1(11) of the TDA.

174. In those cases, ESMA believes that this information should be displayed under the section 'information provided under the laws, regulations and administrative provisions of a Member State adopted in accordance with Article 3(1) of the TD (Article 2(1)(k) of the TD)'.

[45] The European Commission is of the view that Member States should "*refrain as much as possible from adding national rules to the ones agreed at EU level*", see Commission Staff Working Document on more stringent measures concerning Directive 2004/109/EC SEC(2008)3033 final, p.7

[46] For more details, see Commission Staff Working Document on more stringent measures concerning Directive 2004/109/EC SEC(2008)3033 final, in particular Annex 3 thereof

175. Regarding information which is required to be provided by issuers whose securities are admitted to trading on a regulated market under other Union legislation, this information would not be covered by the definition of regulated information if it is not information required under the TD, under Article 6 of MAD or under national laws or regulations implementing the TD.

176. From a legal point of view, it follows that the list indicating all information to be regarded as regulated information for the purposes of the TD shall include 3 main sections: (i) information to be disclosed by the issuer under the TD, (ii) information to be disclosed under Article 6 of MAD and (iii) information to be disclosed under laws, regulations or administrative provisions of a Member State adopted under Article 3(1) of the TD. Voluntary information or information required under other Union legislation should not be included in the EEAP.

177. From the operational point of view, ESMA analysed whether the list referred below could be further aggregated or subdivided. The responses to the questionnaires by OAMs revealed that the level of detail of the list of types of regulated information is aligned with the types of regulated information that is managed and stored by them. Consequently, a further subdivision of the list may not be possible as some items cannot be separated or extracted at the level of OAMs without increasing OAMs' risk of providing inaccurate information.

178. ESMA believes that, due to operational problems encountered and the limited number of items the aggregation or subdivision of those does not seem necessary.

Q13. Do you agree with the common list of regulated information?

6.3.2 Common classification of regulated information

179. **Common Classification: 'When classifying regulated information of an issuer, an OAM shall use the following common classification:**

1. Periodic Regulated Information/Financial Report

a. Annual financial reports (e.g. Audited financial statements, Management report, Statements made by the person responsible, and Audit report);

b. Half yearly financial reports (e.g. condensed set of financial statements, Interim Management report, Statements made by the person responsible, Audit report (if available), and Auditors' review (if available)).

c. Payments to governments;

2. On-going Regulated Information

d. HMS;

e. Price sensitive information (e.g. information about (i) Dividends, interest, redemptions and exercising other rights, (ii) Advance on financial results, (iii) Take-over bid announcements and (iv) managers' transactions);

f. Major shareholdings notifications (e.g. (i) voting agreements, (ii) voting rights and (iii) financial instruments);

Considering that some Member States may have imposed more stringent requirements on major shareholdings, for instance requiring notifications when lower or higher thresholds than those defined in the TD are met, that information should also be classified in this section as it has the same nature.

g. Trading on own shares;

h. Total number of voting rights and capital; and

i. Rights attaching to the classes of shares or securities and changes therein (e.g. changes in warrants, redemption dates of debt securities, or convertible bonds).

3. Additional regulated information adopted by Member State

j. Regulated information adopted by Member State' (e.g. (i) quarterly reports required by Member States following article 3 (1a) of the TD, (ii) information related to general shareholders/debt holders meetings if stored by OAMs)**.**[47]

180. The clustering itself has to be read in conjunction with the requirements for the search of regulated information under Article 22(1)(b) of the TDA as both RTSs foster the policy objective of a more focused and easy search facility via the EEAP. Therefore,

[47] Article 8 (2) of draft RTS on the EEAP and article 2 of Section B of the Annex to the draft RTS

the classification proposed shall be used for the purposes of enabling the exchange of metadata between OAMs and the EEAP. OAMs may continue to apply a different classification and sub-classification when disclosing information to the public via their own data services.

181. From a functional point of view, the classification shall cluster similar types of regulated information, so the search could be narrowed and less - but more relevant - information could be displayed by the EEAP. Such similar types of regulated information could be identified by certain aspects such as:

    a. The frequency of the regulated information (periodic or on-going)

    b. Content itself (all information related to financial reporting, all information related to inside information, all information related to voting rights etc.)

182. From a legal point of view, the text in Article 22(1)(e) of the TDA provides no indications on the arrangement of the classification. Consequently, the legal classification which already exists in the TD, TDA or MAD, is not binding for ESMA. However, the legal classification of regulated information, where the information would be aggregated accordingly with the source of the obligation, is an option that should be considered.

183. Further, it needs to be considered that the RTS requires a classification, so the mere numeration of identified types of documents containing regulated information is not an option for ESMA.

184. Considering also end-users' needs, ESMA believes that regulated information should be classified according to the frequency of its dissemination. Consequently, regulated information should be classified either as periodic or on-going regulated information. The TD provides support to such option as it distinguishes between periodic information in Chapter II and on-going information in Chapter III.

185. ESMA also believes that in order to assist end-users when searching for regulated information using the EEAP, a sub-classification per type of information should be required. On the one hand, this subcategory would allow easier searches as it would provide end-users with the possibility of filtering the information in accordance with their needs. On the other hand, such a sub-classification is unlikely to create significant

costs of implementation as this sub-classification was already required by the Commission Recommendation of 11 October 2007.

186. ESMA acknowledges that in some countries the compliance with certain TD requirements may be achieved through the disclosure and storage of multiple documents. This includes, for instance, annual reports where some issuers disclose through separate documents the annual management report, consolidated and separate financial statements.

187. From the surveys that ESMA has conducted, information was gathered relating to the possibility of regrouping those documents into a single document. However, the majority of OAMs that participated in these surveys argued that regrouping of individual documents would be complex to implement from the operational and from the liability points of view. Therefore, ESMA considers that such regrouping should not be required for the compliance with the proposed classification. In the cases where the classification does not match a single document, the metadata sent to the EEAP should cover hyperlinks to the OAMs' website where all documents that fulfil the obligation to comply with the requirement defined by the TD can be accessed.

188. Conversely, if the compliance with two different requirements is achieved through a disclosure of a single document, or if non-regulated information is disclosed together with the regulated information, in order to comply with this classification, the OAMs will not be required to split the documents. Instead, OAMs will be required to send the same hyperlink to two or more sub-classification categories, or to send the hyperlink to the document where non-regulated information is aggregated with regulated information in accordance with the list provided above.

Q14. In your opinion, while searching for financial information about a specific company (on national OAMs websites); what is the preferred way to classify/organise this information (for more information on the options, please see the picture below)? Please provide your reasoning

Option 1: Classification of regulated information, based on their frequency (e.g. periodic vs. on-going regulated information)

Option 2: Legal classification, based on the directives which require such disclosure of information Transparency Directive/ Amended Transparency Directive, Market Abuse Directive and Additional regulated information as adopted by Member States

Option 1:	Option 2:
Periodic Regulated Information • Annual financial reports • Half yearly financial reports • Payments to governments **Ongoing Regulated Information** • Home Member State • Price sensitive information • Major shareholding notifications • Trading on own shares, • Total number of voting rights and capital **Additional regulated information adopted by Member States** • Additional regulated information adopted by a Member State	**Regulated Information (MAD)** • Price sensitive information **Regulated Information (TD)** • Home Member State • Annual financial reports • Half yearly financial reports • Payments to governments • Major shareholding notifications • Trading on own shares, • Total number of voting rights and capital **Additional regulated information adopted by Member States** • Additional regulated information adopted by a Member State

7 Annexes

Annex I – Legislative mandate to develop regulatory technical standards

Regulation (EU) No 1095/2010 establishing the European Securities and Markets Authority empowers ESMA to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory standards by means of delegated acts under Article 290 TFEU.

Directive 2013/50/EC of the European Parliament and of the Council of 22 October 2013 inserted the following paragraphs into Directive 2004/109/EC (the Transparency Directive) conferring powers on ESMA to draft RTS regarding the access to regulated information:

Article 22(1) Access to regulated information at Union level

ESMA shall develop draft regulatory technical standards setting technical requirements regarding access to regulated information at Union level in order to specify the following:

(a) the technical requirements regarding communication technologies used by the mechanisms referred to in Article 21(2);

(b) the technical requirements for the operation of the central access point for the search for regulated information at Union level;

(c) the technical requirements regarding the use of a unique identifier for each issuer by the mechanisms referred to in Article 21(2);

(d) the common format for the delivery of regulated information by the mechanisms referred to in Article 21(2);

(e) the common classification of regulated information by the mechanisms referred to in Article 21(2) and the common list of types of regulated information.

In developing the draft regulatory technical standards, ESMA shall take into account the technical requirements for the system of interconnection of business registers established by Directive 2012/17/EU of the European Parliament and of the Council (23).

ESMA shall submit those draft regulatory technical standards to the Commission by 27 November 2015.

European Securities and Markets Authority

Annex II – Cost Benefit Analysis

Cost-benefit analysis for European Electronic Access Point (EEAP)

This study was carried out for ESMA by:

Disclaimer

Table of Contents

Table of Figures

Table of Tables

Executive summary

On the 6 November 2013, the revised Transparency Directive[48] (Transparency Directive Amended or TDA) was published in the official journal of the European Union revising Directive 2004/109/EC[49] of the European Parliament and of the Council on the harmonisation of the transparency requirements (TD 2004).

Following the TD 2004, each Member State established officially appointed mechanisms (OAMs), which are in most Member States, operated by the National Competent Authorities (NCAs) or the National Stock Exchange. However, the current network of national OAMs for the central storage of regulated information does not ensure an easy access and search for regulated information across the EU.

The TDA sets out new requirements for establishing an European electronic access point (EEAP) and grant ESMA the responsibility for drafting Regulatory Technical Standards (RTS) to harmonise and ensure interoperability of the information and communication technologies used by the different OAMs. Article 22 of the TDA assigns ESMA the responsibility to develop draft RTS setting technical requirements regarding access to regulated information at Union level, and in particular, regarding communication technologies used by the OAMs, the operation of the central access point for the search for regulated information at Union level, the use of a unique identifier for each issuer by the OAMs, common format for the delivery of regulated information by the OAMs and the common classification of regulated information by the OAMs.

Based on ESMA's mandate[50], ESMA shall conduct public consultations on the drafted RTSs and analyse their potential costs and benefits. In this context, KURT SALMON was mandated by ESMA to conduct a Cost-Benefit Analysis (CBA) on the EEAP.

The CBA on the EEAP aims to assess the costs and benefits related to the technical options considered to implement the EEAP (so-called EEAP options), and to analyse the preliminary list of EEAP requirements. In this regards, the four following EEAP options were considered as relevant for the CBA:

- EEAP Option 1: Central metadata storage;
- EEAP Option 2: Storage of issuers' metadata;
- EEAP Option 3: Query all OAMs;
- EEAP Option 4: Search engine tool.

[48] Directive 2013/50/EU of the European Parliament and of the Council of 22 October 2013 amending Directive 2004/109/EC of the European Parliament and of the Council on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market, Directive 2003/71/EC of the European Parliament and of the Council on the prospectus to be published when securities are offered to the public or admitted to trading and Commission Directive 2007/14/EC laying down detailed rules for the implementation of certain provisions of Directive 2004/109/EC.

[49] Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC.

[50] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC

Since the draft RTS on the requirements set out in TDA Article 22 (1) a, Article 22 (1) b, and Article 22 (1) Article 22 (1) d are interlinked, when analysing the four identified technical options the cost and benefits associated with these requirements are being assessed simultaneously. On the other hand, a separate qualitative analysis is performed with regards to the requirements related to Article 22 (1) c and e.

As part of the CBA, each of these four EEAP options is assessed based on two evaluation criteria: efficiency (least-cost) and effectiveness (best-value-for-money). A qualitative analysis of the risks associated to the technical implementation of each EEAP option is also performed, as these may be relevant for ESMA while choosing the preferred EEAP option.

KURT SALMON has analysed the costs and benefits of the EEAP options for OAMs and ESMA, as well as benefits for investors, collating data through extensive desk research, online questionnaires and interviews with key stakeholders.

Indirect costs for the implementation of the EEAP can also be borne by issuers and NCAs, in case some of the costs incurred to OAMs are transferred to them. However, given that these costs cannot be predicted at the time of the report, they are not taken into account in the CBA.

Overall, the most efficient options for both OAMs and ESMA are Option 4: Search engine tool and Option 1a: Central metadata storage (connection via web services enabled over HTTPS) with an overall implementation cost of EUR 6,559,000 and EUR 7,577,000 respectively. While Option 4 and Option 1a are the least costly options to implement for OAMs[51]; Option 3 and Option 4 would be the cheapest to put in place for ESMA.

These cost estimates have been prepared for the sole purpose of this study and taking into account a number of assumptions and simplifications. Therefore, the actual cost of the implementation of the EEAP by ESMA and other stakeholders may be different and will depend on the final state of the requirements as well as other factors, e.g. the market conditions, strategies to run implementation projects by each counterparty, contractual arrangements between ESMA, OAMs and their providers.

The assessment of the effectiveness of the EEAP options is based on OAMs' perspectives only, as there is no specific requirement in the TDA stating that this aspect should be taken into account by ESMA for establishing the EEAP. As a result, Option 1a: Central metadata storage (connection via web services enabled over HTTPS) and Option 1b: Central metadata storage (connection via sFTP), being assessed as the least complex to implement, and as the options having the least impact on IT infrastructure for the OAMs, are considered as the most effective options to implement the EEAP.

[51] Results based on the aggregation of the quantitative inputs provided by 21 OAMs.

While selecting the preferred EEAP option, three risks associated to the technical implementation of each EEAP option should be taken into account, i.e. synchronisation of data/metadata (1), dependency on OAMs availability and performance for answering to search results (2) and potential investors lacking awareness on the EEAP (3). In this regards, the risk related to the synchronisation of data/metadata is the most severe for Option 1, the dependency on OAMs availability and performance for answering to search results applies to all but to a larger extent to Option 2 and Option 3. The risk of lack of awareness applies equally to all EEAP options.

Introduction

As stated in Article 5 of the Regulation establishing the European Securities and Markets Authority (ESMA)[52], the objective of ESMA is to protect the public interest by contributing to the short, medium and long-term stability and effectiveness of the financial system, for the Union economy, its citizens and businesses.

In this context, the TDA assigns ESMA the responsibility to establish and operate a web portal to serve as a European Electronic Access Point (EEAP). Based on ESMA's mandate, as defined in ESMA Regulation[53], ESMA may develop draft Regulatory Technical Standards (RTS). In the context of the EEAP, the RTS will specify:

a) Technical requirements regarding the communication technologies used by the Officially Appointed Mechanisms (OAMs) – Article 22 (1) a;
b) Technical requirements for the operation of a central access point for the search of regulated information at the Union level – Article 22 (1) b;
c) Technical requirements regarding the use of a unique identifier for each issuer by the national OAMs – Article 22 (1) c;
d) Common format for the delivery of regulated information by national OAMs – Article 22 (1) d;
e) Common classification of regulated information by national OAMs and the common list of types of regulated information – Article 22 (1) e.

Furthermore, as stated in ESMA Regulation, before submitting these RTS to the Commission for endorsement, ESMA shall conduct open public consultations on the drafted RTSs and analyse the potential related costs and benefits. KURT SALMON was mandated by ESMA to perform a Cost-Benefit Analysis (CBA) on the EEAP.

Since the draft RTS on the requirements set out in TDA Article 22 (1) a, Article 22 (1) b, and Article 22 (1) Article 22 (1) d are interlinked, the four identified technical options are related to these requirements. On the other hand, a separate qualitative analysis is performed with regards to the requirements related to Article 22 (1) c and e.

The CBA on the EEAP aims to assess the costs and benefits related to the technical options considered to implement the EEAP (so-called EEAP options), and to analyse the preliminary list of EEAP requirements[54].

[52] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[53] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC
[54] Drafted by ESMA and the Task Force on Regulatory Technical Standards on the European Electronic Access Point (so-called EEAP Task Force)

KURT SALMON has analysed the costs and benefits of the EEAP options for investors[55], OAMs and ESMA, collating data through extensive desk research, online questionnaires and interviews with key stakeholders.

Indirect costs for the implementation of the EEAP can also be borne by issuers and NCAs, in case some of the costs incurred to OAMs are transferred to them. However, given that these costs cannot be predicted at the time of the report, they are not taken into account in the CBA.

In this regards, two online questionnaires were launched:

- On 12.08.2014, an online questionnaire was addressed by KURT SALMON to 41 organisations of investors, representing 23 EU countries. The purpose of this questionnaire was to collect inputs on investors' behaviours towards searches on regulated information, their main needs and expected benefits from the EEAP. Overall, only 2 organisations out of 41 replied.
- On 25.07.2014, an online questionnaire was addressed by ESMA to the 29 National Competent Authorities, who were requested to liaise with their country's OAM to answer the questionnaire. The purpose of this questionnaire was to estimate the expected costs and benefits for implementing the EEAP options by OAMs. Overall, 27 OAMs representing 28 EU countries[56] replied.

Furthermore, KURT SALMON interviewed ESMA officials to assess and estimate the costs that would be incurred to ESMA for establishing the EEAP.

This report is the main output of the CBA and is articulated around five sections:

1. The methodology that is used to perform the CBA is described in Section 1;
2. The technical options considered to implement the EEAP are then described in Section 2, as well as the baseline and the policy objectives for the RTS;
3. Each EEAP option is then assessed in Section 3**Error! Reference source not found.**, in particular the qualitative and quantitative analysis of the costs is presented, as well as the benefits expected from the EEAP;
4. Section 4 compares the various EEAP options, according to three evaluation criteria;
5. The report closes with Section 5, where, based on the outcomes from 5, KURT SALMON draw conclusions on the EEAP options.

The qualitative assessment of the requirements drafted by ESMA on the unique identifier (TDA, Article 22 (1) c) and the common classification of regulated information (TDA, Article 22(1) e), the mapping of the costs elements identified for implementing each option, the detailed methodology followed by KURT SALMON to perform the CBA and the calculations used to assess the quantitative costs (for OAMs and ESMA) are appended in Annex.

[55] Only benefits are assessed for this stakeholder group.
[56] The OAMs from Finland and Lithuania are operated by the same provider (i.e. NASDAQ OMX).

1 Methodology

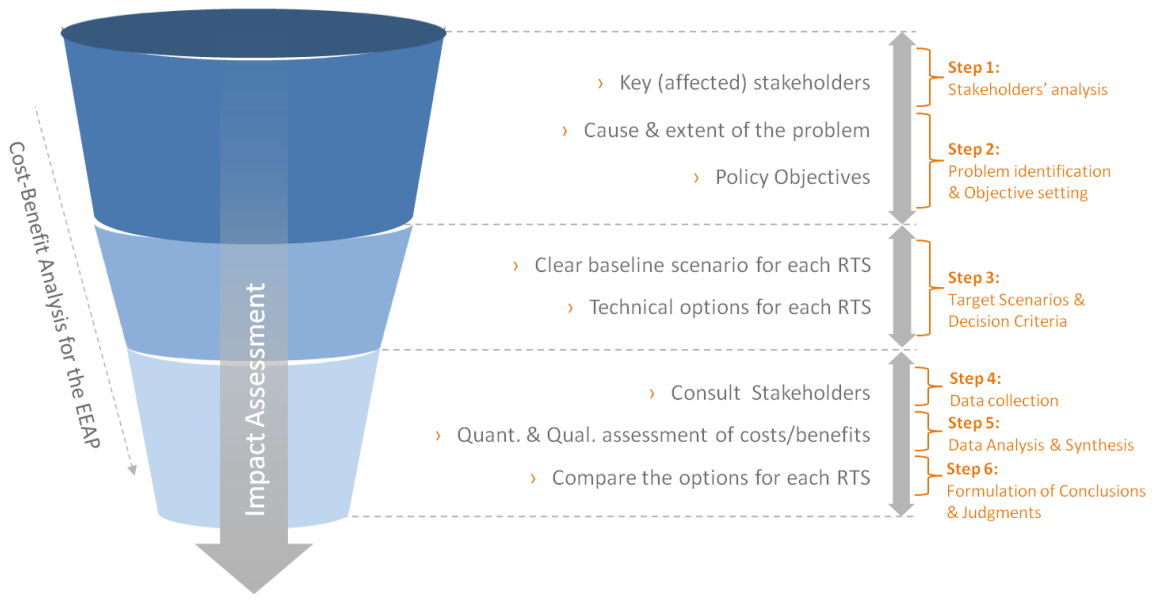
In accordance to Article 10(1) of the ESMA Regulation, ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the European Commission to adopt regulatory standards by means of delegated acts under Article 290 the Treaty on the Functioning of the European Union (TFEU).

The TDA sets out new requirements for establishing a European electronic access point (EEAP) and grant ESMA the responsibility for drafting Regulatory Technical Standards (RTS) to harmonise and ensure interoperability of the information and communication technologies used by the different OAMs as stipulated in Article22(1).

Moreover, in accordance to ESMA Regulation, ESMA is obliged to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. The RTSs related to the establishment of the EEAP must be submitted to the EC for endorsement once open public consultations and the cost-benefit analysis (CBA) are finalised. This section focuses on the approach to conduct the CBA related to the establishment of the EEAP.

The results of the CBA are achieved by following a six-step methodology in accordance to the Commission impact assessment guidelines[57] and ESMA Impact Assessment manual[58] as displayed on Figure 1.

FIGURE 1 OVERALL COST-BENEFIT ANALYSIS APPROACH



[57] Adaptation from the Impact Assessment guidelines [SEC (2009)92], European Commission, 15.01.2009
[58] ESMA/2013/INT/145, Impact Assessment Manual, 2013.

1.1 Step 1 - Stakeholders' analysis

Four main stakeholders groups are impacted by the establishment of the EEAP:

1. EU Organisations: This group mainly includes ESMA, who is in charge of developing and operating the EEAP.
2. National stakeholders: This group includes the OAMs and their operators, i.e. National Competent Authorities, national stock exchange, third parties.
3. Issuers: This group includes the issuers, who currently feed the OAMs.
4. Investors, potential investors and analysts, who are affected by the regulated information provided by issuers, may consult the information displayed on the OAMs portals and later on the EEAP.

Even though issuers are central in the EEAP, costs incurred on them are not taken into account in the CBA as they remain minor in comparison with the OAMs.

1.2 Step 2 - Problem Identification & Objective Setting

Following the Commission Impact Assessment guidelines, the impact of each individual option (benefits and costs of the option relative to the baseline) should be assessed for the purposes of the CBA. However, as mentioned in ESMA IA Manual, it is not necessary to carry out the two first steps of the complete EC's Impact Assessment process[59] ("problem identification" and "objective setting"), as these are not legally binding and have already been carried out by the Commission in the IA of the respective Directive and Regulation.

1.3 Step 3 - Target Scenarios & Evaluation Criteria

Four EEAP options were defined as part of the scope of the CBA (please refer to Section 2).

In order to evaluate and compare these options, two main evaluation criteria are used:

- Efficiency, i.e. the extent to which the EEAP can be established at least-cost. Therefore, this evaluation aims to identify the 'least-costly' EEAP option(s).
- Effectiveness, i.e. the extent to which the EEAP options achieve the European Commission requirements stipulated in the TDA (EEAP objectives), in terms of increased benefits or lowest complexity. This evaluation aims to identify the EEAP options supposed to deliver the 'best-value-for-money'.

A qualitative analysis of the risks associated to the technical implementation of each EEAP option is also performed, as these may be relevant for choosing the preferred EEAP option.

[59] SEC (2009)92, Impact Assessment Guidelines, European Commission, 15 January 2009.

In this context, Table 1 illustrates a map of the stakeholders that will be affected (input from the stakeholders' analysis) by the EEAP and the corresponding regulatory costs and benefits assessed in the CBA.

TABLE 1 MAP OF REGULATORY COSTS AND BENEFITS ON EEAP STAKEHOLDERS

Category	Sub-Category	Stakeholders affected			
		EU Organisations	National stakeholders	Market participants	
		ESMA	OAMs	Issuers	Investors
Direct Costs	Regulatory charges				
	Substantive compliance costs	☑	☑		
	Administrative Burden				
	Hassle Costs				
Indirect Costs	Indirect Compliance costs			☑	
	Other indirect costs				
Direct Benefits	Wide range of products/services				☑
	Improved Information	☑			☑
	Cost Savings				☑
Indirect Benefits	Indirect Compliance Benefits		☑	☑	☑
	Wider macro-economic benefits				

As displayed in Table 1, the regulatory costs for the establishment of the EEAP can be categorized as direct and indirect costs.

Direct costs can be broken down into regulatory charges, substantive compliance costs, administrative burdens and hassle costs[60].

- Regulatory charges include fees, levies, taxes, etc.
- Substantive compliance costs encompass those investments and expenses that are faced by businesses and citizens in order to comply with substantive obligations or requirements contained in a legal rule.
- Administrative burdens are those costs borne by businesses, citizens, civil society organizations and public authorities as a result of administrative activities performed to comply with information obligations included in legal rules.
- Hassle costs are often associated with businesses, but they apply equally well to consumers: they include costs associated with waiting time and delays, redundant legal provisions, corruption etc.

Indirect costs refer to the costs incurred in related markets or experienced by consumers, government agencies or other stakeholders that are not under the direct scope of the regulation. These mostly relate to indirect compliance costs, i.e. the costs related to the fact that other stakeholders have to comply with legislation. However, they may also concern the costs related to substitution (e.g. reliance on alternative sources of supply), transaction costs and negative impacts on market functioning such as reduced competition or market access, or reduced innovation or investment.

[60] Assessing the costs and benefits of a Regulation, Study for the European Commission, Secretariat General, A CEPS (Economisti Associati Study for the European Commission), 2013.

As displayed in Table 1, the benefits for the establishment of the EEAP can be categorized as direct and indirect benefits.

Direct benefits can be expressed in terms of additional citizens' utility, welfare or satisfaction (in the context of the EEAP, a wider range of products and services, improved information) and improved market efficiency, which might include improvements in the allocation of resources, removal of regulatory or market failures, or cost savings generated by regulation.

Indirect benefits mostly relate to the indirect compliance benefits, i.e. spill over effects related to third-party compliance with legal rules. Indirect compliance benefits can be defined as benefits that accrue to individuals or businesses that are not the addressees of the regulation, but that enjoy positive effects due to the fact that other have to comply with the regulation. Wider macroeconomic benefits such as GDP increases, competitiveness and productivity effects, are other types of indirect benefits that were identified in the context of the EEAP, to a lesser extent.

1.4 Step 4 – Data Collection

Four different data collection strategies were used to conduct je EEAP CBA: desk research, individual/group interviews, a workshop and an online questionnaire. Table 2 represents a map of the stakeholders affected (input from the stakeholders' analysis) and corresponding regulatory costs and benefits.

TABLE 2 REGULATORY COSTS/BENEFITS MAPPED WITH RESEARCH METHODS

Regulatory Costs/Benefits	Desk Research	Interviews		Workshop	Online Questionnaire	
		ESMA	**OAMs**	**OAMs**	**OAMs**	**Investors**
Direct Costs - Substantive Compliance Costs	••	•••	•	•	•••	
Indirect Costs – Indirect Compliance Costs	••	•		•		
Direct Benefits – Wide range of products/services	••				•	•
Direct Benefits – Improved Information	•••					•
Indirect Benefits – Indirect compliance benefits –	••	•			••	•

First, a workshop was organised with OAMs on 17.07.2014 in order to explain the objective of the study and gather preliminary inputs from them on the EEAP options.

Secondly, taking into account these preliminary inputs and desk research on the EEAP, KURT SALMON designed two online questionnaires, one addressed to OAMs on 25.07.2014 and one to investors, on 12.08.2014, for collating quantitative and qualitative benefits. Overall, 27 out of 28 OAMs[61] responded to the

[61] The OAMs from the following countries replied to the online questionnaire submitted by KURT SALMON: Belgium, Hungary, Estonia, Czech Republic, Latvia, Slovakia, Croatia, Spain, Sweden, Denmark, Germany, the Netherlands, Romania, Ireland, Norway, Finland/ Lithuania, Slovenia, Luxembourg, Cyprus, Poland, United Kingdom, Malta, Austria, Portugal, Italy, France and Greece. It should be noticed that the answers related to Finland and Lithuania count as one input, taking into account that their related OAMs are operated by the same provider (i.e. NASDAQ QMX).

former questionnaire, while only 2 out of 41 organisations[62] responded to the latter one. KURT SALMON followed-up with OAMs when their answers were missing or assessed as inconsistent.

In parallel to these data collection activities, KURT SALMON also interviewed ESMA officials to validate assumptions on the costs to implement the EEAP for ESMA, mostly based on desk research on similar EU initiatives and KURT SALMON previous work on the subject.

1.5 Step 5 – Data Analysis & Synthesis

A wide range of techniques can be used to enhance the effectiveness of a CBA and result in a quantification of costs and benefits. ESMA Impact Assessment manual (2013) and the EC Impact Assessment guidelines (2009) describe methodologies at hand, from which we can choose the most appropriate for the EEAP. The following four activities are carried out to analyse and synthesise data:

1. Quantification of costs over five years for ESMA and the OAMs;
2. Qualitative assessment of benefits assuming that these cannot be monetised;
3. Comparison of estimated costs applying a discount rate;
4. Conclusions on the EEAP options based on the evaluation criteria and a qualitative analysis of the risks related to the technical implementation of each EEAP option.

The discount rate is a correction factor that allows the comparability of costs and benefits in different points in time considering options with same time horizons. In that regards, the Commission Impact Assessment guidelines recommend to apply the standard discount rate of 4%. This discount rate broadly corresponds to the average real yield on longer-term government debt in the EU over a period since the early 1980s[63].

1.6 Step 6 – Formulation of Conclusions and Judgments

Based on monetized cost of each technical option, their associated risks, and qualitative benefits, KURT SALMON is able to draw conclusions on each option.

[62] The following organisations of investors replied to the online questionnaire submitted by KURT SALMON: the Swedish Society of Financial Analysts (SFF) and the Chartered Institute for Securities & Investment (CISS).
[63] European Commission Impact Assessment guidelines (SEC(2009) 92) and Part III, Annexes to Impact Assessment guidelines, European Commission 15.01.2009.

2 Description of the technical options

Prior to describing each of the EEAP option that is in the scope of the CBA, this section gives a status on the current situation in the EU, with regards to access and search of regulated information (i.e. Baseline) and the policy objectives behind each technical requirement that shall be developed by ESMA for the purpose of the EEAP.

2.1 Baseline

The baseline scenario serves as a basis for assessing the potential impacts of the range of possible technical options which are included in the EEAP cost-benefit analysis.

When considering the baseline scenario for the EEAP, it is important to note that the current network of national OAMs for the central storage of regulated information does not ensure an easy access and search for regulated information across the EU, for the three following reasons:

- The functioning of the OAMs (e.g. search facilities) is not harmonised;
- The web portals provided by OAMs are not easy to access for investors, potential investors and analysts residing in another country due to language barriers;
- There is no easy search for regulated information at EU level.

In this context, the investors, potential investors and analysts communities need to go through different national databases in order to search for regulated information.

All these difficulties facing investors, potential investors and analysts, who wish to access regulated information, due to the insufficient interconnection between OAMs, are also limiting the visibility of Small-Medium size issuers.

Minimum standards to enable a connection between the mechanisms and a central access point for the search for regulated information at EU level are not yet implemented.

Taking into account the baseline and the objectives of the EEAP, all costs generated by the legal provisions of the EEAP are incremental costs, i.e. the EEAP will enhance additional costs compared to the ‘’do nothing option’’ (without legislative intervention).

The costs related to the baseline (or business as usual) are excluded from the CBA.

2.2 Policy objectives

The purpose of the EEAP is to maintain and enhance the current level of investor protection by facilitating investors' access to information, in a manner ensuring fast access to such information and on a non-discriminatory basis. This takes into account the current situation of investors going through 28 different national databases to search for regulated information at EU level.

Taking into account the baseline, the Article 22 of the TDA assigns ESMA the responsibility to develop draft RTS setting technical requirements regarding access to regulated information at Union level, and in particular, regarding communication technologies used by the OAMs (a), the operation of the central access point for the search for regulated information at Union level (b), the use of a unique identifier for each issuer by the OAMs (c), common format for the delivery of regulated information by the OAMs (d)and the common classification of regulated information by the mechanisms (e).

This sub-section aims to define the policy objectives related to each of these types of requirements.

2.2.1 ***RTS 22 (1) a***

As above-mentioned, the TDA provides a mandate to ESMA to develop technical requirements regarding communication technologies to be used by OAMs. However, given that the TDA itself does not provide any detailed legal requirements regarding those technologies, the requirements for the communication technologies should be driven by the requirements and architecture options drafted by ESMA, for the operation of the central access point for the search for regulated information at Union level. Additionally, general IT standards and best practices, e.g. ISO standard 2011, regarding the information systems development should be considered to ensure that the interface between OAMs and the EEAP is reliable[64].

2.2.2 ***RTS 22 (1) b***

In accordance with Recital 15 of the TDA, the policy objective related to the EEAP is to facilitate cross-border investment by allowing investors an easy access to regulated information of all listed companies.
In this regard, ESMA believes that the requirements defined in ESMA's draft RTS shall ensure easy access but also easy search for regulated information, for all listed companies in the EU.

Taking into account the overall objective of the TD, as stated in Recital 1[65], the draft RTS shall also ensure that the information provided via the EEAP reflects accurately the information stored in the OAMs and that this information is timely provided to the investors, through the EEAP.

[64] Draft Discussion Paper on the communication technologies used by OAMs, ESMA and the EEAP Task Force, 2014.
[65] The disclosure of accurate, comprehensive and timely information about security issuers builds sustained investor confidence and allows an informed assessment of their business performance and assets. This enhances both investor protection and market efficiency.

Furthermore, ESMA's draft RTS shall ensure that the access to regulated information provided through the EEAP is free of charge[66] and adaptable to developments in the communications technologies applied to the EEAP and OAMs and investors' needs.

2.2.3 ***RTS 22 (1) c***

As for RTS 22 (1) a, the TDA simply requires the use of a unique identifier for each issuer. In this regards, the conditions directly provided by the legal basis only allow determining two core requirements regarding the identifier to be used by OAMs:

- Core requirement 1: The identifier used is unique for each issuer;
- Core requirement 2: The identifier is required to be used for the identification of each issuer[67].

2.2.4 ***RTS 22 (1) d***

Based on the TDA, it is possible to determine two core requirements regarding the format for the delivery of regulated information:

- Core requirement 1: A common format shall be used;
- Core requirement 2: The common format shall be used for the delivery of regulated information.

2.2.5 ***RTS 22 (1) e***

The regulatory technical standard on the classification of regulated information is an additional tool to facilitate cross-border investment by granting investors easy access to regulated information of all listed companies. In particular, the investors should be able to make more focused EEAP-searches in order to obtain more relevant information for their investment decision. This issue is even more significant at EU level than at national level, as the EEAP-searches are searches in the OAMs of all Member States. In lack of such classification, the search results bear the risk to become confusing with respect to the amount of information displayed and may cause disclosure-overload to the investor. Moreover, non-narrowed searches need significant more response time[68].

[66] If not free of charge, no specific costs should be charged to investors if they decide to use the EEAP.
[67] Draft Discussion Paper on the use of a unique identifier for each issuer, ESMA and the EEAP Task Force, 2014.
[68] Draft Discussion Paper on the common classification of regulated information by OAMs, ESMA and the EEAP Task Force, 2014.

2.3 Technical options considered for the CBA

In 2011, an external study[69] (Actica report) was conducted for the European Commission on the feasibility of a pan-European storage system for regulated information disclosed by issuers of securities. As a result of this study, eight technical options were assessed as compliant with the European Commission requirements[70], for providing a pan-European single access point.

KURT SALMON, in close collaboration with ESMA, assessed the eight technical options from the Actica report towards the new requirements from the TDA, taking into account the potential impacts they may have. A benchmarking with similar initiatives from ESMA, such as Prospectus[71] and from the European Commission such as the European Case Law Identifier[72] (ECLI) and European Criminal Records Information System[73] (ECRIS) was also performed to assess the options.

As a result, out of these eight options, the four following EEAP options were qualified as relevant for the CBA and fulfilled the TDA requirements:

- EEAP Option 1: Central metadata storage, which corresponds to Option 3 in the Actica report;
- EEAP Option 2: Storage of issuers' metadata, which corresponds to a combination of Option 3 and Option 5 in the Actica report;
- EEAP Option 3: Query all OAMs, which corresponds to Option 5 from the Actica report;
- EEAP Option 4: Search engine tool, which corresponds to Option 6 from the Actica report.

This selection of options was assessed as relevant by the OAMs: even though 33% of the OAMs questionnaire's respondents have no opinion on the matter (9), for 63% of them (17) these four options are comprehensive enough and no additional ones need to be considered for establishing the EEAP.

The answers received to that questionnaire confirmed the first inputs received from OAMs, during the workshop help on 03.07.2014: no additional options need to be considered as the four proposed ones are exhaustive enough.

The remaining of this section further describes each EEAP option in the scope of the CBA.

2.3.1 ***Option 1: Central metadata storage***

As illustrated in Figure 2, the EEAP Option 1 provides search facility based on a central copy of metadata for all information held by the national OAMs. OAMs are requested to upload metadata on the EEAP

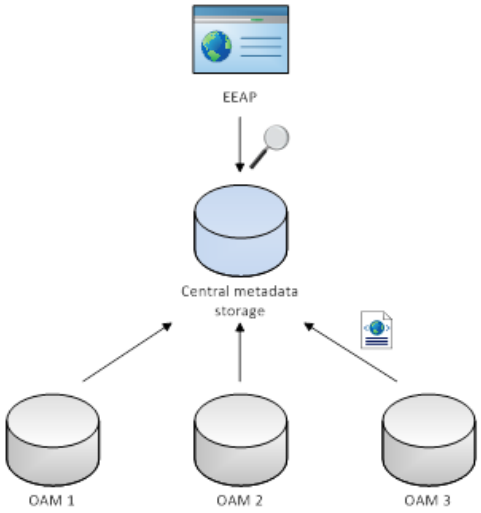
[69] Feasibility study for a pan-European storage system for information disclosed by issuers of securities, Final Report, Actica Consulting, October 2011.
[70] The CESR's consultation and report, the OAM Survey Analysis (Actica) and other work performed by the Commission have identified the key requirements to be in place in order to build an effective pan-European storage network.
[71] http://registers.esma.europa.eu/publication/searchProspectus
[72] https://e-justice.europa.eu/content_european_case_law_identifier_ecli-175-en.do
[73] http://ec.europa.eu/justice/criminal/european-e-justice/ecris/index_en.htm

immediately after documents' metadata (e.g. title, type of regulated information, language) and issuers' metadata (e.g. name, unique identifier, home Member State) are updated[74] in the OAM.

An investor's search would thus result in the provision of a document and issuer metadata, including a link to the document itself, i.e. the actual regulated information.

Option 1 can be implemented via two scenarios, i.e. Option 1a: Connection between the OAM and the EEAP via sFTP and Option 1b: Connection via web services enabled over HTTPS.

FIGURE 2 CENTRAL METADATA STORAGE (OPTION 1)



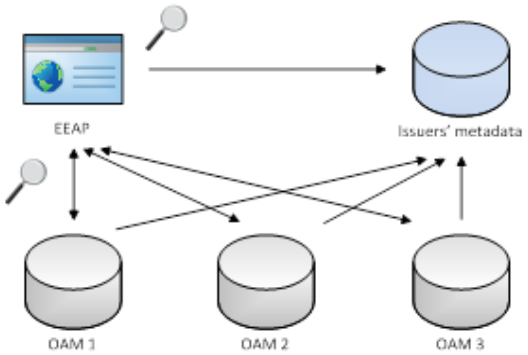
2.3.2 *Option 2: Storage of issuers' metadata*

As illustrated in Figure 3, EEAP Option 2 stores issuers' metadata (e.g. name, unique identifier, home Member State), so that each investor's search follows a 2 step. Firstly, based on the parameters entered in the investor's search, the EEAP retrieves the issuer information, in particular its home Member State from the database. Secondly, the EEAP triggers a search request to the OAM hosting the regulated information of the concerned issuer. The results provided by the relevant OAM (i.e. list of documents and hyperlinks to the documents) are finally displayed on the EEAP portal. It should be noticed that this option implies that OAMs provide the issuers' metadata to the EEAP each time these are updated in the OAMs (i.e. added or modified).

[74] In the context of the EEAP CBA, 'update' is defined as any addition, modification, or archiving of a document and issuer available at national level.

Option 2 can be implemented via two scenarios, i.e. Option 2a: transmission of XML files in real-time and Option 2b: transmission of XML files once a day.

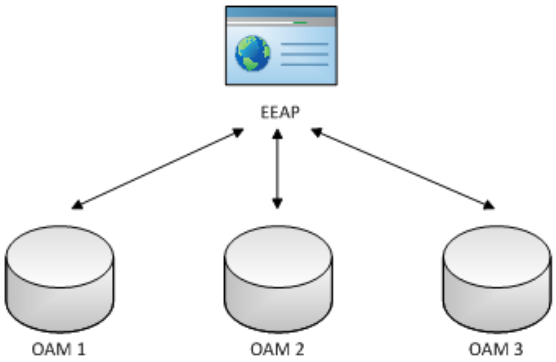
FIGURE 3 STORAGE OF ISSUERS' METADATA (OPTION 2)



2.3.3 *Option 3: Query all OAMs*

As illustrated in Figure 4, in the EEAP Option 3 does not store any metadata. In fact, this option follows federated search principles, meaning that each investor's search performed via the EEAP triggers a search request to all OAMs. The search results provided by OAMs are then consolidated and displayed by the EEAP.

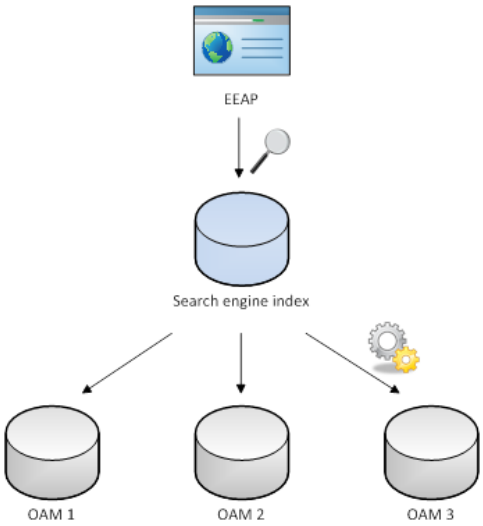
FIGURE 4 QUERY ALL OAMS (OPTION 3)



2.3.4 *Option 4: Search engine tool*

As illustrated in Figure 5, in EEAP Option 4, no metadata needs to be stored by the EEAP as such. The EEAP is connected to all OAMs via a web crawler (search engine). The web crawler indexes documents and issuers' metadata published by OAMs via a secure URL (https) enabling investors' searches to be performed via the EEAP.

FIGURE 5 SEARCH ENGINE TOOL (OPTION 4)



3 Assessment of each EEAP option

This section presents the assessments of the positive impacts (benefits) and negative impacts (costs) foreseen for each EEAP option.

The following points should be taken into account while going through this section:

- Given the low response rate of investors to the online questionnaire (i.e. 2 respondents out of 41 organisations), additional inputs from investors will need to be gathered during the public consultation on the Draft Technical Standards on the EEAP planned to be launched in Q1 2015. For data reliability reasons, the inputs from the two organisations of investors having replied to the questionnaire are not taken into account in the CBA.
- The low response rate mentioned above has also impacted the quantitative analysis of the benefits. While KURT SALMON intended to quantitatively assess the benefits using the Willingness-To-Pay methodology, the lack of inputs from investors prevents them from doing so. 'N/A' is thus included in the related cell of the assessment of the EEAP options.
- Given that the costs of implementing the EEAP options will mostly be incurred to ESMA and OAMs, only these two groups of stakeholders are included in the cost analysis performed.

Indirect costs for the implementation of the EEAP can also be borne by issuers and NCAs, in case some of the costs incurred to OAMs are transferred to them. However, given that these costs cannot be predicted at the time of the report, they are not taken into account in the CBA.

- The assessment of the EEAP options is based on:
    - Answers to the online questionnaire provided by OAMs;
    - Interviews with ESMA officials to assess the costs for the establishment of the EEAP; and
    - Benchmarking of similar EU initiatives[75] from the European Commission.
- Since the estimates of EEAP costs are focused on Information Technology (IT), substantive compliance costs that will define the Total Cost of Ownership of an Information System (IS)[76,77]are calculated as a sum of:
    - Infrastructure: Infrastructure costs provide the total (anticipated) cost of the hardware (e.g. network, servers) and software (e.g. licences, libraries) required to develop, support, operate and maintain the system.
    - Development: Development costs provide the total (anticipated) cost (human resources) for the development of the system (e.g. analysis and process re-engineering activity, coding activity, project management activity, test activity, configuration & change management activity, deployment activity).

[75] European Case Law Identifier (ECLI), Business registers interconnection system (BRIS), European Criminal Records Information System (ECRIS), etc.
[76] Training costs are not included in the TCO considering that these are not substantial for the EEAP implementation.
[77] Approach recommended by the European Commission in accordance to the Value ASsessement Tool (VAST) guidelines.

- Maintenance: Maintenance costs provide the total (anticipated) cost (human resources) in person days per year to maintain the system (e.g. activities related to both corrective maintenance and evolving maintenance).
- Support costs[78]: Support costs provide the total (anticipated) cost (human resources) in person days per year to support the system (e.g. three-level helpdesk, operations). We assume that a three-level support will be put in place by ESMA in a way that a first-level help desk can collect queries (via email), answer questions, provide information and escalate more complex issues to a second-level support. A third-level support should deal with EEAP infrastructure-specific needs, such as updates and bug fixes that directly affect a stakeholder of the EEAP.

These cost estimates have been prepared for the sole purpose of this study and taking into account a number of assumptions and simplifications. Therefore, the actual cost of the implementation of the EEAP by ESMA and other stakeholders may be different and will depend on the final state of the requirements as well as other factors, e.g. the market conditions, strategies to run implementation projects by each counterparty, contractual arrangements between ESMA, OAMs and their providers.

- A discount rate of 4% was applied to the total one-off and total on-going costs estimated to implement each EEAP option, for the 21 OAMs and for ESMA. The cumulative costs for OAMs are calculated by aggregating the quantitative inputs received from 21 OAMs[79]. In this regards, the total cost for OAMs correspond to the total costs for 21 out of 31 OAMs.
- While development, maintenance and support costs were provided by OAMs in person days, these days were then computed into Euros, using the conversion rates provided by DG ESTAT[80] for each country and adjusted to the skills required for the implementation of the EEAP. Infrastructure costs were directly provided by OAMs in Euros.
- For ESMA, person days were also used to assess the development and maintenance costs. These days were then computed into Euros, using the European Commission rate, adjusted to ESMA.

3.1 Benefits of the EEAP

The online questionnaire addressed to investors aimed at gathering the main benefits they expect from the EEAP. Given the low response rate, additional inputs from investors shall be gathered during the public consultation on the Draft Technical Standards on the EEAP planned to be launched in Q1 2015.

[78] Quantitative data on the support costs for ESMA were gathered based on similar initiatives from ESMA, such as Prospectus and from the European Commission such the European Case Law Identifier (ECLI), European Criminal Records Information System (ECRIS). Quantitative data on the support costs for OAMs were gathered via the online questionnaire.
[79] Following data quality control on the quantitative data received by the 27 OAMs, the answers from 6 OAMs were discarded as they were assessed as incomplete, inconsistent or unreliable. In this regards, the quantitative inputs from the following 21 OAMs were included in the costs analysis: Croatia, Spain, Sweden, Denmark, Germany, the Netherlands, Romania, Ireland, Norway, Finland/ Lithuania, Slovenia, Luxembourg, Cyprus, Poland, United Kingdom, Malta, Austria, Portugal, Italy, France and Greece. It should be noticed that the answers related to Finland and Lithuania count as one input, taking into account that their related OAMs are operated by the same provider (i.e. NASDAQ QMX).
[80] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by the investors. The potential costs related to any communication activities were however not assessed in this CBA as the need for these cannot be predicted at the time of the report.

Nevertheless, based on the inputs received from OAMs and on desk research performed by KURT SALMON, EEAP benefits can still be assessed from a qualitative perspective.

It should however be noted that, in the context of this CBA, the 'least-cost analysis' was assessed by KURT SALMON as the most appropriate methodology, as it aims to find the least cost−option of achieving the policy objectives and benefits. One important feature of the least-cost analysis is that benefits are fixed across the different options. In the case of the EEAP benefits were identified for four groups of stakeholders: investors, OAMs, regulators and issuers.

In this regards, the six main benefits identified for the EEAP are summarised below:

1 Taking into account that the disclosure of accurate, comprehensive and timely information about security issuers builds sustained investor confidence and allows an informed assessment of their business performance and assets, the EEAP will enhance both investor protection and market efficiency, by providing a free of charge access to metadata on regulated information to all its users, regardless where they are situated.

2 Overall, the EEAP will ensure more confidence among investors on the regulated markets and encourage long-term investment, by promoting transparency in financial markets.

3 By being provided with a tool to perform centralised search on financial information, investors will be able to perform more efficient searches, both easier and faster, and cross-border searches. As a result, they will be better informed and the number of investors may potentially increase.

4 On their side, OAMs will benefit from an enhanced visibility through a central access point for regulated information at EU level as well as the EEAP will serve as a channel between end-users and the OAMs' website who may continue to provide value added services to their end-users.

5 Thanks to the EEAP, the benchmarking of issuers' filings will be facilitated for regulators and the quality of information improved.

6 Issuers are also expected to benefit from the EEAP as it should ease benchmarking with their competitors and bring additional visibility to them (indirect compliance benefit) especially to small and medium-sized issuers[81].

[81] The results of the public consultation on the ''Modernisation of the Directive 2004/109/EC'' launched in 2010 by the EC services also confirmed that the development of a central access point for storage of regulated information could facilitate research and result in greater attention to small listed companies from financial analysts, financial intermediaries and investors. This was also confirmed by the External Study on the feasibility of a pan-European storage system for regulated information disclosed by issuers of securities accessible at http://ec.europa.eu/internal_market/securities/docs/transparency/report-application_en.pdf

Even though benefits are fixed across the options, costs significantly differ from one to another. The remaining sub-sections describe these costs, option by option. Considering that the disclosure of the costs for the development of the EEAP (for ESMA) and eventually for OAMs may affect the procurement phase of this project, this CBA only includes the overall quantitative costs for all options, i.e., although determined separately, the costs for ESMA and OAMs are presented aggregated.

3.2 Costs for option 1: Central metadata storage

Table 3 below provides a qualitative and quantitative description of the main costs related to Option 1.

TABLE 3 COST-BENEFIT ANALYSIS OF OPTION 1

OPTION 1: Central metadata storage		
	Qualitative description	**Quantitative description**
Costs to ESMA: - *One-off* - *On-going*	• Development costs (one-off costs) will be incurred to ESMA to set-up the connection between ESMA and OAMs[82], load metadata XML files, set-up the database and its back-up, deploy a search software application and a server and application monitoring module including a web analytics application to monitor the operation and use of the EEAP, develop a Graphical User Interface (GUI) for the EEAP and conduct the activities necessary to implement the EEAP, including project management tasks, the definition of business and functional requirements, coordination activities, testing and roll-out. • With regards to on-going costs, not only maintenance and support costs should be considered but also infrastructure costs, as ESMA lease their infrastructure.	• ESMA would need a total of 585 pd to perform all the development activities. These costs will run until the EEAP is operational, i.e. over two years (i.e. 2016 and 2017). • While support costs are estimated at 18.75 pd per year, maintenance costs were assessed as a fixed percentage of the development and infrastructure costs (i.e. 20%). • Infrastructure costs include the setup of the overall infrastructure necessary for the implementation and operation of the EEAP and the hardware and software related to the database. • Person days have been valued at the European Commission rate and adjusted to ESMA. • A discount rate of 4% has then been applied on the total costs.

[82] Whether via sFTP (Option 1a) or HTTPS enabled over web services (Option 1b), the cost incurred to ESMA to set-up the connection between ESMA and OAMs is the same. The differentiation between the two scenarios only impacts OAMs.

OPTION 1: Central metadata storage		
	Qualitative description	**Quantitative description**
Costs to OAMs - *One-off* - *On-going*	• Infrastructure, development, maintenance and support costs will be incurred to OAMs to set-up a connection between their national mechanisms and the EEAP. This connection can be implemented via two scenarios, i.e. a sFTP connection or web services enabled over HTTPS. • Using web services enabled over HTTPS to connect the OAMs to the EEAP was assessed as more complex (and more costly) to implement than a connection via sFTP. However, views are mixed on the subject, as further detailed below Table 3. • In addition, costs will also be incurred to OAMs to extract, generate & transmit XML files immediately after documents' and issuers' metadata are updated at national level (added or modified). Implementing the latter cost element was assessed by OAMs as medium or medium to low complexity. • Depending on the OAM, infrastructure and development costs can be either one-off or on-going costs.	• While 10,034 pd would be needed (for 21 OAMs) over five years, in both Option 1a and Option 1b, to extract, generate & transmit XML files immediately after documents' and issuers' metadata are updated at national level (added or modified); the cost to set up the connection between OAMs and the EEAP would differ between Option 1a and Option 1b. • Over five years (for 21 OAMs), 7,828 pd would be needed to set up a connection via sFTP while 8,300 pd would be required to set up a connection via web services enabled over HTTPS. • These person days have been valued based on a conversion factor provided by DG ESTAT[83] for each country and adjusted to the skills required for the implementation of the EEAP. • A discount rate of 4% has been applied on the costs.

[83] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

3.3 Costs for option 2: Storage of issuers' metadata

Table 4 below provides a qualitative and quantitative description of the main costs related to Option 2.

TABLE 4 COST-BENEFIT ANALYSIS OF OPTION 2

OPTION 2: Storage of issuers' metadata		
	Qualitative description	**Quantitative description**
Costs to ESMA: - *One-off* - *On-going*	• The same development costs (one-off costs) as Option 1 (in the case of a connection via web services enabled over HTTPS) are expected in order to implement Option 2. • In addition, the development costs (one-off costs) related to the set-up of a query mechanism should be included, i.e. setting-up a software application enabling the production of a search request message (XML-based), transmission of a search request message via HTTPs protocol from the EEAP the concerned OAM(s) immediately after investors' search request, treatment and collection of OAM response messages and production of a query response immediately after the search request transmission. • With regards to the on-going costs, not only maintenance and support costs should be considered but also infrastructure costs, as ESMA lease their infrastructure.	• ESMA would need a total of 645 pd to perform all the development activities. These costs will run until the EEAP is operational, i.e. over two years (i.e. 2016 and 2017). • The difference in the number of pd between Option 1 and Option 2 is due to the effort estimated for setting-up and operating the query mechanism. • While support costs are estimated at 18.75 pd per year, maintenance costs were assessed as a fixed percentage of the development and infrastructure costs (i.e. 20%). • Infrastructure costs include the setup of the overall infrastructure necessary for the implementation and operation of the EEAP and the hardware and software related to the database. • Person days have been valued at the European Commission rate and adjusted to ESMA. • A discount rate of 4% has then been applied on the total costs.

OPTION 2: Storage of issuers' metadata		
	Qualitative description	**Quantitative description**
Costs to OAMs - *One-off* - *On-going*	• Infrastructure, development, maintenance and support costs will be incurred to OAMs to set-up a connection via web services enabled over HTTPS between their national mechanisms and the EEAP and to extract, generate & transmit XML files immediately after documents' and issuers' metadata are updated at national level (added or modified) for Option 2a or once a day for Option 2b. • In addition to these costs, OAMs will also be incurred the costs of answering to search requests. Taken into account the filtering of requests upfront (search in the issuers' database), these costs are expected to be lower than these incurred for Option 3, in this same context, i.e. 33% of the number of requests of Option 3 is estimated for Option 2. • On average, extracting the metadata from the OAM local database, and generating and transmitting a XML file in the proposed common metadata format in real-time would be of higher complexity compared to doing it once a day.. • Depending on the OAM, infrastructure and development costs can be either one-off or on-going costs.	• Similarly to Option 1b, in Option 2a and Option 2b, 8,300 pd would be needed (for 21 OAMs) over five years, to set up a connection via web services enabled over HTTPS. • However, the cost to extract, generate and transmit XML files to the EEAP would differ between Option 1a, 1b and Option 2a and 2b. In the case of Option 2a, over five years, 13,579 pd would be needed (for 21 OAMs) to transmit XML files to the EEAP in real-time; whereas, 13,737 pd would be required in the case of Option 2b, to perform the same task but once a day. • These person days have been valued based on a conversion factor provided by DG ESTAT[84] for each country and adjusted to the skills required for the implementation of the EEAP. • A discount rate of 4% has been applied on the costs.

[84] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

3.3 Costs for option 3: Query all OAMs

Table 5 below provides a qualitative and quantitative description of the main costs related to Option 3.

TABLE 5 COST-BENEFIT ANALYSIS OF OPTION 3

OPTION 3: Query all OAMs		
	Qualitative description	**Quantitative description**
Costs to ESMA: - *One-off* - *On-going*	• Development costs (one-off costs) will be incurred to ESMA to set-up the connection between ESMA and OAMs, deploy a server and application monitoring module including a web analytics application to monitor the operation and use of the EEAP, set-up a query mechanism (same mechanism as for Option 2), develop a Graphical User Interface (GUI) for the EEAP and conduct the activities necessary to implement the EEAP, including project management tasks, the definition of business and functional requirements, coordination activities, testing and roll-out. • In the case of Option 3, ESMA will not need to load metadata XML files, set-up the database and its back-up or deploy a search software application. • With regards to the on-going costs, not only maintenance and support costs should be considered but also infrastructure costs, as ESMA lease their infrastructure.	• ESMA would need a total of 590 pd to perform all the development activities. These costs will run until the EEAP is operational, i.e. over two years (i.e. 2016 and 2017). • While support costs are estimated at 18.75 pd per year, maintenance costs were assessed as a fixed percentage of the development and infrastructure costs (i.e. 20%). • Infrastructure costs include the setup of the overall infrastructure necessary for the implementation and operation of the EEAP. • Person days have been valued at the European Commission rate and adjusted to ESMA. • A discount rate of 4% has then been applied on the total costs.

OPTION 3: Query all OAMs		
	Qualitative description	**Quantitative description**
Costs to OAMs - *One-off* - *On-going*	• Infrastructure, development, maintenance and support costs will be incurred to OAMs to set-up a connection via web services enabled over HTTPS between their national mechanisms and the EEAP. • In addition, costs will also be incurred to OAMs to extract, generate & transmit XML files in real-time. • On average, extracting the metadata from the OAM local database, and generating and transmitting a XML file in the proposed common metadata format for each reply to a search request (in real-time) would be of higher complexity compared to doing it on a daily basis or immediately after documents' and issuers' metadata are updated (added or modified). • Depending on the OAM, infrastructure and development costs can be either one-off or on-going costs.	• Similarly to Option 1b, 2a and 2b, in the case of Option 3, over five years, 8,300 pd would also be needed (for 21 OAMs) to set up a connection via web services enabled over HTTPS. • However, the cost to extract, generate and transmit XML files to the EEAP would differ between Option 1a, 1b, 2a, 2b and Option 3. In the case of Option 3, over five years, 10,743 pd would be needed (for 21 OAMs) to extract, generate and transmit XML files to the EEAP. • These person days have been valued based on a conversion factor provided by DG ESTAT[85] for each country and adjusted to the skills required for the implementation of the EEAP. • A discount rate of 4% has been applied on the costs.

[85] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

3.4 Costs for option 4: Search engine tool

Table 6 below provides a qualitative and quantitative description of the main costs related to Option 4.

TABLE 6 COST-BENEFIT ANALYSIS OF OPTION 4

OPTION 4: Search engine tool		
	Qualitative description	**Quantitative description**
Costs to ESMA: - *One-off* - *On-going*	• Development costs (one-off costs) will be incurred to ESMA to set-up the connection between ESMA and OAMs, deploy a search software application and a server and application monitoring module including a web analytics application to monitor the operation and use of the EEAP, develop a Graphical User Interface (GUI) for the EEAP and conduct the activities necessary to implement the EEAP, including project management tasks, the definition of business and functional requirements, coordination activities, testing and roll-out. • In the case of Option 4, ESMA will not need to load metadata XML files or to set-up the database and its back-up. Furthermore, the deployment of a web crawler to index OAMs metadata will replace the query mechanisms required in Option 2 and 3. In this regards, the web crawler represents an additional item included in the development costs. While maintenance will be needed for the web crawler, the cost will be relatively low as ESMA would deploy SOLR open source enterprise search platform as its search engine. With regards to on-going costs, not only should maintenance and support costs be considered but also infrastructure costs, as ESMA leases their infrastructure.	• ESMA would need a total of 620 pd to perform all the development activities. These costs will run until the EEAP is operational, i.e. over two years (i.e. 2016 and 2017). • While support costs are estimated at 18.75 pd per year, maintenance costs were assessed as a fixed percentage of the development and infrastructure costs (i.e. 20%). • Infrastructure costs include the setup of the overall infrastructure necessary for the implementation and operation of the EEAP and the hardware and software related to the database. • Person days have been valued at the European Commission rate and adjusted to ESMA. A discount rate of 4% has then been applied on the total costs.

OPTION 4: Search engine tool		
	Qualitative description	**Quantitative description**
Costs to OAMs - *One-off* - *On-going*	• Infrastructure, development, maintenance and support costs will be incurred to OAMs to set-up a connection between their national mechanisms and the EEAP. However, in the case of Option 4, there is no need to develop a connection via web services enabled over HTTPS as the implementation of Option 4 includes a web crawler that already indexes metadata published by OAMs via a secure URL (https). In this context, the cost of the connection for Option 4 is half the cost estimated by OAMs for a connection via web services enabled over HTTPS. • In addition, costs will also be incurred to OAMs to extract, generate & store XML files to the EEAP. • Depending on the OAM, infrastructure and development costs can be either one-off or on-going costs.	• Over five years (for 21 OAMs), 4,150 pd would be needed to set up a connection via web services enabled over HTTPS and 10,762 pd would be required to extract, generate & store XML files to the EEAP. • These person days have been valued based on a conversion factor provided by DG ESTAT[86] for each country and adjusted to the skills required for the implementation of the EEAP. • A discount rate of 4% has been applied on the costs.

[86] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

4 Comparison of the EEAP options

This section aims to compare the EEAP options and conclude on the EEAP options, according to two evaluation criteria, i.e. the efficiency, effectiveness.

- Efficiency can be defined as the extent to which the EEAP can be established at least-cost. Therefore, this evaluation aims to identify the 'least-costly' EEAP option(s).
- Effectiveness can be defined as the extent to which the EEAP options achieve the European Commission requirements stipulated in the TDA (EEAP objectives), in terms of increased benefits or lowest complexity. This evaluation aims to identify the EEAP options supposed to deliver the 'best-value-for-money'.

A qualitative analysis of the risks associated to the technical implementation of each EEAP option is also performed, as these may be relevant for choosing the preferred EEAP option.

4.1 Efficiency

First of all, efficiency refers to the extent to which the EEAP can be established at least-cost in terms of Total Cost of Ownership (TCO)[87] for the OAMs and ESMA over the lifespan of the EEAP implementation (2016-2020). Only the incremental costs directly related to the EEAP implementation are considered in the scope of the efficiency evaluation. In this regards, Table 7 and Table 8 illustrates the total foreseen costs in Euros and person days incurred on OAMs and ESMA for each of the identified options.

TABLE 7 COST AGGREGATION FOR THE EEAP IMPLEMENTATION (EUR)

Foreseen costs per option *(in thousand EUR)*	2016	2017	2018	2019	2020	TOTAL
OPTION 1a (sFTP + immediate updates)						
Total costs	1,803	1,874	1,395	1,280	1,225	7,577
OPTION 1b (web services + immediate updates)						
Total costs	1,897	1,983	1,460	1,327	1,276	7,943
OPTION 2a (web services + real-time updates)						
Total costs	2,208	2,369	1,760	1,587	1,522	9,446
OPTION 2b (web services + updates once a day)						
Total costs	2,210	2,371	1,748	1,578	1,513	9,420
OPTION 3 (web services + real-time updates)						
Total costs	2,042	2,136	1,544	1,374	1,306	8,401
OPTION 4 (web services + indexing)						
Total costs	1,585	1,669	1,199	1,074	1,031	6,559

Source: KURT SALMON Final Data analysis report, September 2014.

[87] The TCO of an information system defines the total estimated cost to develop the system, to put it into production, to operate it, to support it, to maintain it, to phase it out at the end.

TABLE 8 COST AGGREGATION FOR THE EEAP IMPLEMENTATION (PERSON DAYS)[88]

Foreseen costs per option *(in person days)*	2016	2017	2018	2019	2020	TOTAL
OPTION 1a (sFTP + immediate updates)						
Total costs	3,767	4,312	3,592	3,440	3,451	18,562
OPTION 1b (web services + immediate updates)						
Total costs	3,937	4,458	3,661	3,486	3,492	19,034
OPTION 2a (web services + real-time updates)						
Total costs	4,580	5,308	4,411	4,180	4,172	22,651
OPTION 2b (web services + updates once a day)						
Total costs	4,613	5,409	4,425	4,185	4,177	22,809
OPTION 3 (web services + real-time updates)						
Total costs	4,020	4,728	3,835	3,601	3,565	19,749
OPTION 4 (web services + indexing)						
Total costs	3,220	3,699	3,029	2,852	2,851	15,651

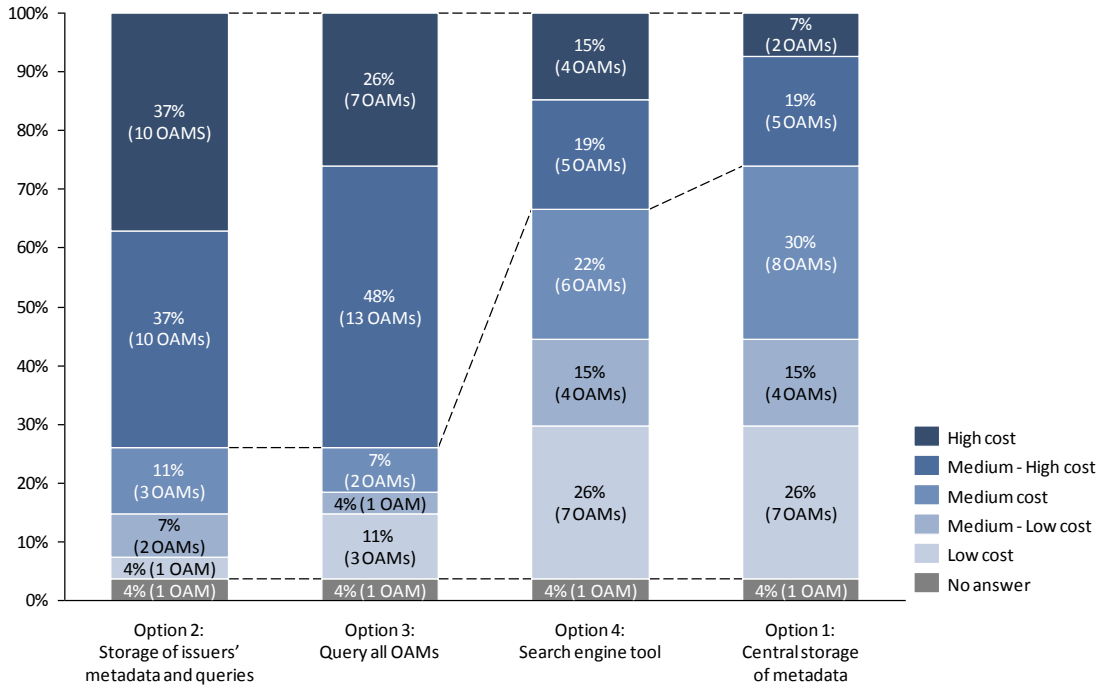
Source: KURT SALMON Final Data analysis report, September 2014.

For OAMs, the two least costly options are Option 4 and Option 1.

This quantitative result is aligned with OAMs' qualitative assessment[89], as they considered Option 4 and Option 1 as the least costly options to implement (Figure 6). Option 2 and Option 3 remain the most costly options to implement for the majority of the OAMs. In fact, 74% of the OAMs (20) having answered the questionnaire expect high or medium to high costs for implementing these options, while only 26% and 34% of the respondents (i.e. 9 and 7 OAMs) expect so when it comes to Option 1 and 4 respectively. On the other hand, the two least costly options for ESMA are Option 3 and Option 4.

FIGURE 6 RANKING OF OPTIONS PER IMPLEMENTATION COSTS

[88] The cost aggregation in person days includes only development, maintenance and support costs excluding infrastructure costs.
[89] The qualitative assessment refers to the results of the first question of the online questionnaire addressed to OAMs: Q1. In your opinion, which option would be the most costly for OAMs?



Source: KURT SALMON Final Data analysis report, September 2014.

Overall, the least costly option is Option 4, whose implementation is estimated to cost (for OAMs and ESMA) a total of EUR 6.559 million, during the period 2016-2020.

While analysing the costs for OAMs to implement Option 4, two main elements stood out: on the one hand, in Option 4, there is no need to develop a connection via web services enabled over HTTPS as the implementation of Option 4 includes a web crawler that already indexes metadata published by OAMs via a secure URL (https). In this context, the cost of the connection for Option 4 is half the cost estimated by OAMs for a full connection via web services enabled over HTTPS.

On the other hand, while all the other EEAP options generate a cost for OAMs to extract, generate and transmit XML files; this cost element is slightly different for Option 4. The latter indeed also implies the extraction and generation of XML files in the proposed common metadata format however, instead of transmitting these files for each reply to a search request, the latter are to be stored so that they can be indexed by the EEAP search engine, in Option 4.

While the first cost element is less costly in Option 4 than any other options, the second cost element is less costly for Option 1. In this regards, one can conclude that the main driver for cost efficiency remains the first one, i.e. set up a connection between the OAMs and ESMA.

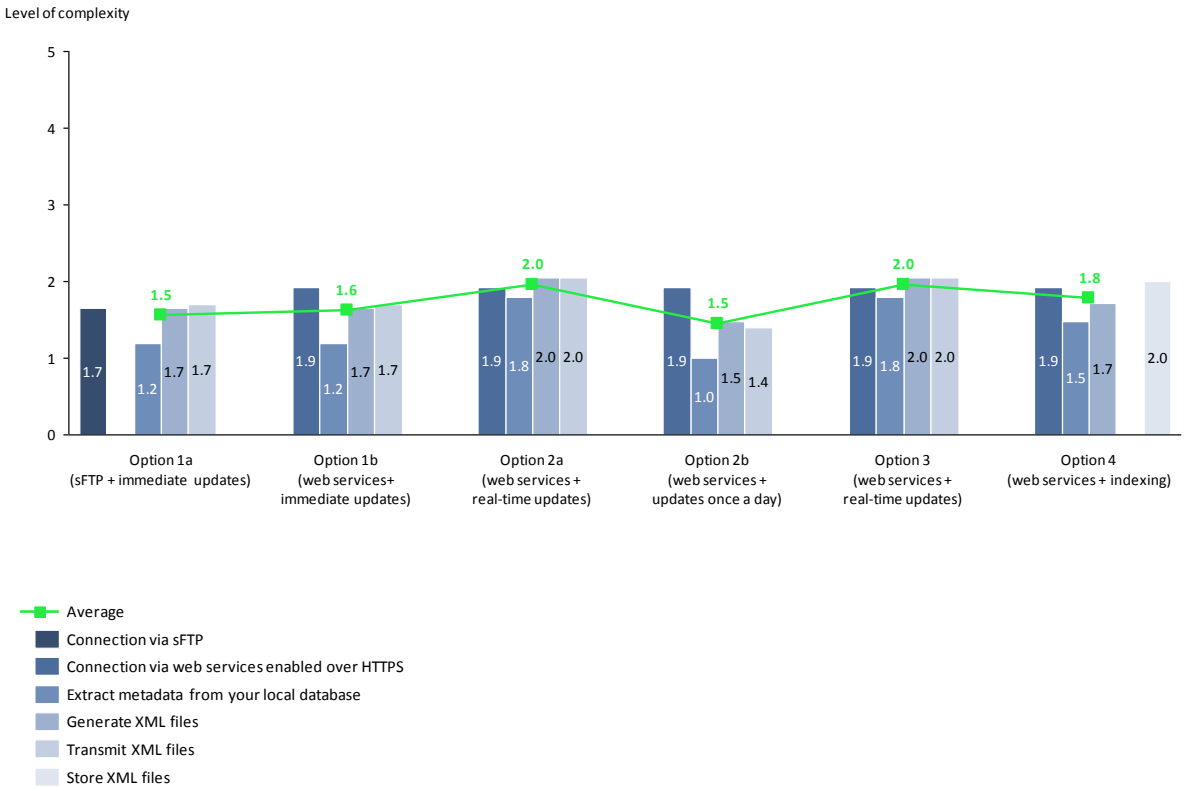
4.2 Effectiveness

As mentioned earlier, effectiveness can be defined as the extent to which the EEAP options achieve the European Commission requirements stipulated in the TDA in terms of increased benefits. However, in the context of this CBA, benefits can be considered fixed across the different EEAP options. Therefore, effectiveness will be measured based on the perceived complexity to implement the EEAP options.

The complexity to implement the EEAP options for ESMA should not be taken into account, as any specific requirements in the TDA states that this aspect should be taken into account by ESMA for establishing the EEAP. As a result, the effectiveness of the EEAP options is based on OAMs' perspectives.

In this regards, Figure 7 illustrates OAMs' assessment of the level of complexity to implement the EEAP (on their side). Whatever option is selected, overall, OAMs expect the complexity to be medium to low (between 1.5 and 2 in a 5-point Likert scale).

FIGURE 7 SUMMARY OF THE LEVEL OF COMPLEXITY PER OPTION

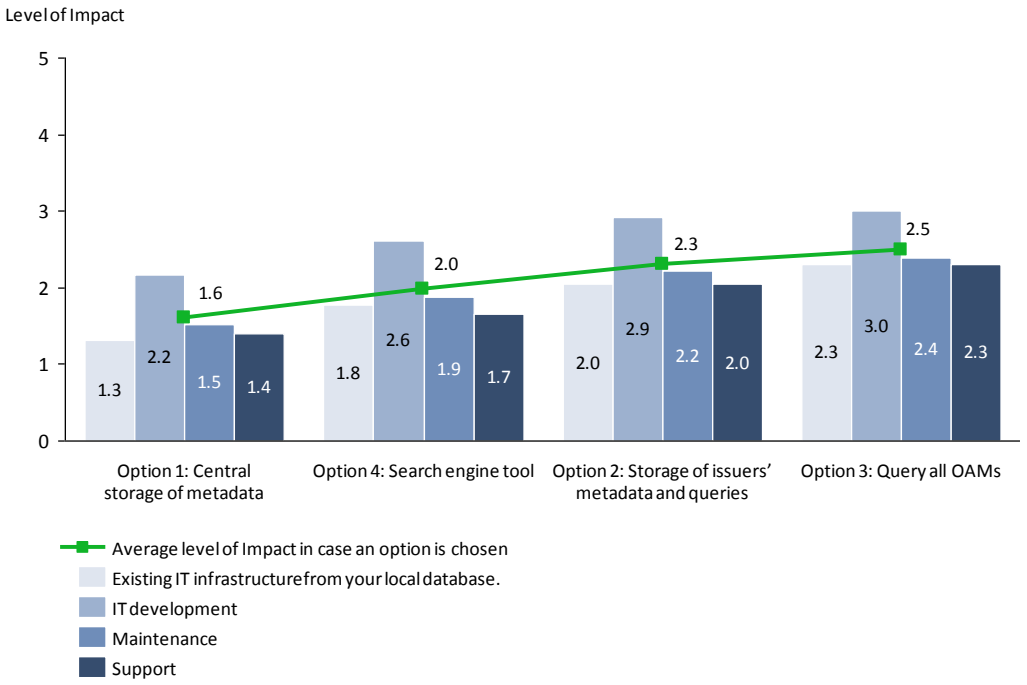


Source: KURT SALMON Final Data analysis report, September 2014.

More specifically, OAMs assessed Option 1a, 2b and Option 1b as the least complex options to implement. It should however be noticed that, even though Option 2a, Option 3 and Option 4 were assessed as slightly more complex to implement, the difference can be considered as not significant.

OAMs were also asked about the expected level of impact that each EEAP option would have on the existing IT infrastructure of the OAMs, IT development, maintenance and support needed for OAMs' information systems. The result of this assessment is further displayed in Figure 8.

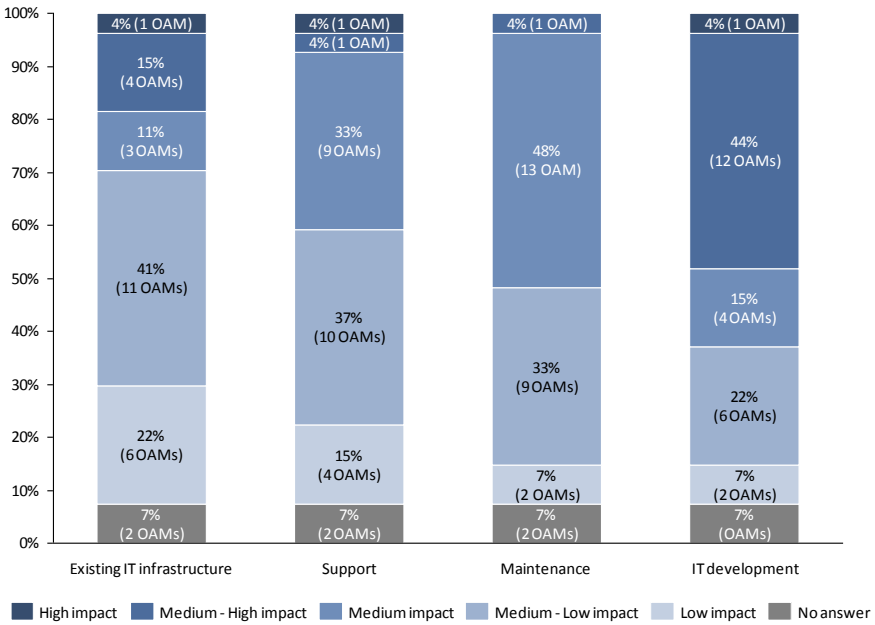
FIGURE 8 SUMMARY OF THE LEVEL OF IMPACT OF THE EEAP OPTIONS ON OAMS



Source: KURT SALMON Final Data analysis report, September 2014.

Option 1 is clearly expected to have the lowest level of impact on OAMs. Therefore, KURT SALMON has further analysed the assessment of the expected impact of Option 1 on each of the elements abovementioned, i.e. the existing IT infrastructure of the OAMs, IT development and the maintenance and support needed for OAMs' information systems, as shown in Figure 9.

Figure 9 Impact of Option 1 on the OAMs



Source: KURT SALMON Final Data analysis report, September 2014.

4.3 Associated risks

A qualitative analysis of the risks associated to the technical implementation of each EEAP option is displayed in Table 9. Three main risks were identified, related to data/ metadata synchronisation (1), to OAMs availability and performance for answering to search results (2) and potential investors lacking awareness on the EEAP (3).

TABLE 9 RISKS ASSOCIATED TO THE EEAP OPTIONS

	Associated Risks
Option 1a & 1b	**Data/metadata synchronisation:** The search results performed via the EEAP may lead to delayed information due to the time necessary for synchronisation of documents and issuers metadata between OAMs and the EEAP. This delay can occur because OAMs need to submit, at each update, documents and issuers metadata to be stored and indexed in the EEAP central database. In this context, '*update'* is defined as any addition, modification, or archiving of a document and issuer available at national level. Even though Options 1a and 1b assume that updated documents and issuers metadata are sent immediately after any update performed at national level, the extent of the delay depends on the technical implementation chosen to the EEAP. Given that the volume of metadata is much higher in option 1a and 1b (metadata on all documents) than in option 2a and 2b (only issuers metadata), it is important to notice that in Option 1a and 1b this risk is more severe than in other options. Except in the case of Option 3, a delay may occur between the information displayed at national level by the OAM and the EEAP, which may lead to an asymmetry of information between investors using different access points (local or the EEAP).
	Dependency on OAMs availability and performance for answering to search results: No risk on the dependency on OAMs availability and performance for answering to search results is associated to Option 1a and 1b, as the EEAP would perform searches in the local central database. However, as search results include links to documents (regulate information) stored by OAMs, investors will be dependent on the availability of these documents at OAM level. This dependency exists, with the same severity, in all EEAP options.
	Lack of awareness: Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by the investors. On the contrary, if investors are not aware of and thus do not use the EEAP, this would result in just a legal compliance exercise with no benefits for EU citizens.

Option 2a	**Data/metadata synchronisation:** The search results performed via the EEAP may lead to delayed information due to delays time necessary for on the synchronisation of issuers' metadata between OAMs and the EEAP. This delay can occur because OAMs need to submit, at each update, issuers' metadata to be stored and indexed in the EEAP central database. In this context, 'update' is defined as any addition, modification, or removal of an issuer available at national level. Even though Option 2a assumes that updated issuers metadata is sent immediately after any updated performed at national level, the extent of the delay depends on the technical implementation chosen to the EEAP. It is important to notice that the frequency of updates on issuers are significantly lower than the frequency of updates on documents, therefore, this risk can be considered less severe in Option 2a than in Options 1a,1b and 2b. Except in the case of Option 3, a delay may occur between the information displayed at national level by the OAM and the EEAP, which may lead to an asymmetry of information between investors using different access points (local or the EEAP).
	Dependency on OAMs availability and performance for answering to search results: In Option 2a, each search request made via the EEAP triggers a search request to one or more OAMs. This dependency can result in long response time to an investor's search request as well as incomplete search results if case an OAM platform is temporarily unavailable. Additionally, as search results include links to the documents (regulate information) stored on OAMs, investors will be dependent on the availability of these documents at OAM level. The latter dependency exists, with the same severity, in all EEAP options.
	Lack of awareness: Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by the investors. On the contrary, if investors are not aware of and thus do not use the EEAP, this would result in just a legal compliance exercise with no benefits for EU citizens.
Option 2b	**Data/metadata synchronisation:** The search results performed via the EEAP may lead to delayed information due to time necessary for the synchronisation of issuers' metadata between OAMs and the EEAP. This delay can occur because OAMs need to submit, at each update, issuers' metadata to be stored and indexed in the EEAP central database. In this context, 'update' is defined as any addition, modification, or removal of an issuer available at national level. Option 2b assumes that updated issuers metadata is sent once a day to the EEAP what makes this risk more severe than the one identified in option 2a. It is important to notice that the frequency of updates on issuers are significantly lower than the frequency of updates on documents, therefore, this risk can be considered less severe in Option 2b than in Options 1a and 1b. Except in the case of Option 3, a delay may occur between the information displayed at national level by the OAM and the EEAP, which may lead to an asymmetry of information between investors using different access points (local or the EEAP).
	Dependency on OAMs availability and performance for answering to search results: In Option 2b, each search request made via the EEAP triggers a search request to one or more OAMs. This dependency can result in long response time to an investor's search request as well as incomplete search results if case an OAM platform is temporarily unavailable. Additionally, as search results include links to the documents (regulate information) stored on OAMs, investors will be dependent on the availability of these documents at OAM level. The latter dependency exists, with the same severity, in all EEAP options.
	Lack of awareness: Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by investors. On the contrary, if investors are not aware of and thus do not use the EEAP, this would result in just a legal compliance exercise with no benefits for EU citizens.
Option	**Data/metadata synchronisation:** No risk on data/metadata synchronisation is associated to Option 3.

	Associated Risks
3	**Dependency on OAMs availability and performance for answering to search results:** In Option 3, each search request made via the EEAP triggers a search request to all OAMs. This dependency can result in long response time to an investor's search request as well as incomplete search results if case an OAM platform is temporarily unavailable. It is important to notice that this risk is more severe in option 3 than in options 2a and 2b as all OAMs are triggered in each search request. Additionally, as search results include links to the documents (regulate information) stored on OAMs, investors will be dependent on the availability of these documents at OAM level. The latter dependency exists, with the same severity, in all EEAP options.
	Lack of awareness: Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by the investors. On the contrary, if investors are not aware of and thus do not use the EEAP, this would result in just a legal compliance exercise with no benefits for EU citizens.
Option 4	**Data/metadata synchronisation:** The search results performed via the EEAP may lead to delayed information due to time necessary for the indexation of updated documents and issuers metadata made available by the OAMS to the EEAP web crawler. In this context, 'update' is defined as any addition, modification, or archiving of an issuer available at national level. The extent of the delays on the indexation of the metadata will depend on the technical implementation chosen to the web crawler of the EEAP as well as potential temporary unavailability of OAMs' systems disallowing the EEAP to access the metadata to be indexed. It is important to notice that as no metadata is stored in the EEAP, this risk can be considered less severe that in option 1a, 1b, 2a and 2b. Except in the case of Option 3, a delay may occur between the information displayed at national level by the OAM and the EEAP, which may lead to an asymmetry of information between investors using different access points (local or the EEAP).
	Dependency on OAMs availability and performance for answering to search results: No risk on the dependency on OAMs availability and performance for answering to search results is associated to Option 4, as the EEAP would perform searches in the EEAP central index. However, as search results include links to the documents (regulate information) stored on OAMs, investors will be dependent on the availability of these documents at OAM level. This dependency exists, with the same severity, in all EEAP options.
	Lack of awareness: Potential investors may lack awareness on the EEAP; therefore raising their awareness, via e.g. a marketing campaign, will be key to ensure that the objectives of the EEAP are reached and its related benefits acknowledged by the investors. On the contrary, if investors are not aware of and thus do not use the EEAP, this would result in just a legal compliance exercise with no benefits for EU citizens.

4.4 Conclusions

This sub-section summarises the evaluation of the efficiency and effectiveness of each EEAP option as well the risks associated to the technical implementation of each EEAP option, based on the results from sub-sections 4.1, 4.2 and 4.3.

Table 10 displays the result of the assessed efficiency and effectiveness of each EEAP option, using a score ranking from ● (lowest) to ●●●●●● (highest).

TABLE 10 OVERALL EVALUATION OF EEAP OPTIONS

	Total Costs *(in thousand EUR)*	Efficiency	Level of Complexity	Impact on OAMs	Effectiveness
OPTION 1a	7,577	●●●●●	1.5	1.6	●●●●●●
OPTION 1b	7,943	●●●●	1.6	1.6	●●●●●
OPTION 2a	9,446	●	2.0	2.3	●●
OPTION 2b	9,420	●●	1.5	2.3	●●●●
OPTION 3	8,401	●●●	2.0	2.5	●
OPTION 4	6,559	●●●●●●	1.8	2.0	●●●●

As a result, Option 4 and Option 1 are evaluated as the most efficient options to implement the EEAP while Option 1a and 1b were considered as the most effective ones.

These cost estimates have been prepared for the sole purpose of this study and taking into account a number of assumptions and simplifications. Therefore, the actual cost of the implementation of the EEAP by ESMA and other stakeholders may be different and will depend on the final state of the requirements as well as other factors, e.g. the market conditions, strategies to run implementation projects by each counterparty, contractual arrangements between ESMA, OAMs and their providers.

While selecting the preferred EEAP option, three risks associated to the technical implementation of each EEAP option should be taken into account, i.e. synchronisation of data/metadata (1), dependency on OAMs availability and performance for answering to search results (2) and potential investors lacking awareness on the EEAP (3).

First, one of the main risks associated to the technical implementation of Option 1, 2 and 4 is the synchronisation of data/metadata. The search results performed via the EEAP may lead to delay in providing the information due to the time necessary for the synchronisation of documents' and issuers metadata between OAMs and the EEAP (Option 1), for the synchronisation of issuers' metadata between OAMs and the EEAP (Option 2) and for the indexation of updated documents and issuers metadata made available by the OAMs to the EEAP web crawler (Option 4). Given that the volume of metadata is higher in Option 1 (metadata on all documents) than in any other option, this risk will be the most severe for Option 1.

Secondly, it should be noticed that the risk of dependency on OAMs availability and performance for answering to search results exists in all EEAP options: as search results always include links to the documents (regulated information) stored by OAMs, investors will be dependent on the availability of these documents at OAM level. However, in Option 2 and 3 this risk has additional implications. For Option 2, each search request made via the EEAP triggers a search request to one or more OAMs, which can result in long response time to an investor's search request as well as incomplete search results in the case an OAM platform is temporarily unavailable. This risk is even more severe for Option 3, as each search request made via the EEAP triggers a search request to all OAMs.

Thirdly, the risk related to the fact that potential investors may lack awareness on the EEAP applies equally to all EEAP options.

Based on the knowledge we have today, EU initiatives like ECLI, ECRIS and BRIS reflect a broader technology trend to ''enterprise search solutions'' (EEAP Option 1 and Option 4). This is also confirmed by Gartner external study[90] stating that the enterprise search market is expanding and growing driven by multiple factors such as advanced and extended capabilities that, combined with improved content semantics and content analytics, are improving result relevancy and use.

[90] Gartner, Inc., Market Trends: Smart Computing and Analytics, Rejuvenate the Enterprise Search Market, 2014-2017, Tom Eid, 6 February 2014.

Cost Benefit Analysis questions

Q15. Please classify which type of Stakeholder you qualify? (please tick one as appropriate)

- ☐ Financial Analysts
- ☐ Retail investor associations
- ☐ Other stakeholders' associations
- ☐ Institutional investors
- ☐ Issuers
- ☐ Auditors/ Accounting bodies
- ☐ Others (please specify in the textbox below)

Q16. In your opinion, which type of stakeholder would benefit the most from the EEAP? (please tick one as appropriate)

- ☐ Financial Analysts
- ☐ Retail investor associations
- ☐ Other stakeholders' associations
- ☐ Institutional investors
- ☐ Issuers
- ☐ Auditors/ Accounting bodies
- ☐ Others (please specify in the textbox below)

Q17. Once the EEAP is operational, would it become your first source for searching for financial information about a specific company? Please provide details

Q18. Once the EEAP is operational, how much time do you expect to save (in comparison with the current situation) while searching for financial information about a specific company (per search)?

- ☐ Less than 5 minutes
- ☐ Between 5 and 15 minutes
- ☐ Between 15 and 30 minutes
- ☐ Between 30 minutes and 1 hour
- ☐ More than 1 hour
- ☐ Don’t know/ No opinion

Q19. Which type of regulated information would you more often search while using the EEAP (please tick one as appropriate)?

- ☐ Historical financial statements (annual / half yearly financial reports)
- ☐ Price Sensitive information
- ☐ Major shareholdings notifications
- ☐ Payments to governments
- ☐ Trading on own shares
- ☐ Total number of voting rights and capital
- ☐ Changes in the rights attaching to the classes of shares or securities

Q.20 In your opinion, to what extent will the EEAP provide the following benefits? Please rate each benefit from 1 to 5 according to the benefits expected by market participants (1 being the lowest amount of expected benefits and 5 the highest).

	1	2	3	4	5	Don't know / No opinion
Improved quality of the information accessed by investors (e.g. harmonised classification of Regulated Information, comparability of information).	☐	☐	☐	☐	☐	☐
Increased interest from market participants (e.g. more investments, more investors).	☐	☐	☐	☒	☐	☐
Increased quantity of information accessed by investors (e.g. disclosure of corporate ownership).	☐	☐	☐	☐	☐	☐
Reduced costs while searching for Regulated Information (e.g. time saved).	☐	☐	☐	☐	☐	☐
Easier cross-market searches for Regulated Information, facilitating investment decisions.	☐	☐	☐	☐	☐	☐
Faster cross-market searches for Regulated Information.	☐	☐	☐	☐	☐	☐

Q21. In your opinion, will the EEAP bring any additional benefit(s) to end-user?

☐ Yes
☐ No
☐ Don't know / No opinion (please explain below)

5 Appendix

5.1 Requirements related to RTS 22 (1) c: qualitative assessment

Table 131 below provides the qualitative analysis of the advantages and disadvantages of using the Legal Entity Identifier (LEI), i.e. Option 1 for the use of a unique identifier for each issuer by the OAMs.

Table 11 RTS 22 (1) e: Option 1

Analysis Option 1	Advantages	Disadvantages
ESMA	• Improved data aggregation and analysis • Open access to the LEI • No additional costs	• None
NCAs	• Well accepted identifier	• None
OAMs	• None	• OAMs having not implemented LEI yet will need to add a new data field in their system.
Issuers	• Open access to the LEI • Compulsory use to comply with other legislation by 2018, (e.g. revised Markets in Financial Instruments Directive (MiFIDII) and Regulation (MiFIR)).	• Risk of a 'bottle neck' in the LEI system[91] • Use of LEI for natural persons • Additional costs
Investors	• Free of charge access to the LEI • More efficient and effective searches	• None

Table 142 below provides the qualitative analysis of the advantages and disadvantages of creating a new identifier, i.e. Option 2 for the use of a unique identifier for each issuer by the OAMs.

Table 12 RTS 22 (1) e: Option 2

Analysis Option 2	Advantages	Disadvantages
ESMA	• Implementation of all the requirements	• Bigger challenges • Additional costs
NCAs	• None	• None
OAMs	• None	• Additional costs
Issuers	• None	• Additional costs
Investors	• More efficient and effective searches	• None

[91] This risk remains low, given that the number of Local Operating Units (LOUs) where issuers can register is growing worldwide.

5.2 Requirements related to RTS 22 (1) e: qualitative assessment

Table 13 below provides the qualitative analysis of the advantages and disadvantages of the classification among similar types of information, i.e. Option 1 for the common classification of regulated information by the OAMs.

Table 13 RTS 22 (1) e: Option 1

Analysis Option 1	Advantages	Disadvantages
ESMA	• Better ''look and feel'' of the EEAP • No additional costs	• None
NCAs	• None	• None
OAMs	• None	• Marginal costs (XML taxonomy)
Issuers	• More focused searches	• None
Investors	• More focused searches • Facilitated indexing, search and retrieval of pages	• No overview about all regulated information available

Table 14 below provides the qualitative analysis of the advantages and disadvantages of the legal classification, i.e. Option 2 for the common classification of regulated information by the OAMs.

Table 14 RTS 22 (1) e: Option 2

Analysis Option 2	Advantages	Disadvantages
ESMA	• Better ''look and feel'' of the EEAP • No additional costs	• None
NCAs	• None	• None
OAMs	• None	• Marginal costs (XML taxonomy)
Issuers	• More focused searches	• None
Investors	• More focused searches • Facilitated indexing, search and retrieval of pages	• Legal classification not user-friendly • No overview about all regulated information available

Further inputs from investors shall be gathered during the public consultation on the Draft Technical Standards on the EEAP planned to be launched in Q1 2015.

5.3 Cost elements per option

For each option, KURT SALMON identified the main potential costs that could be incurred to OAMs (**Table 15**) and ESMA (**Table 16**) with regards to the establishment of the EEAP.

In total, three main cost elements have been defined for OAMs.

Table 15 Mapping of the cost elements per option (OAMs)

ID	Cost element	Option 1a	Option 1b	Option 2a	Option 2b	Option 3	Option 4
1a	Set-up a connection between OAMs and the EEAP – sFTP	✓	✗	✗	✗	✗	✗
1b	Set-up a connection between OAMs and the EEAP – web services	✗	✓	✓	✓	✓	✓
2a	Extract, Generate & Transmit XML files immediately after the updates	✓	✓	✓	✗	✗	✗
2b	Extract, Generate & Transmit XML files once a day	✗	✗	✗	✓	✗	✗
2c	Extract, Generate & Transmit XML files in real-time	✗	✗	✓	✓	✓	✗
3	Extract, Generate & Store XML files	✗	✗	✗	✗	✗	✓

Source: KURT SALMON Final Data analysis report, September 2014.

In total, 11 main cost elements have been defined for ESMA.

Table 16 Mapping of the cost elements per option (ESMA)

ID	Cost element	Option 1a	Option 1b	Option 2a	Option 2b	Option 3	Option 4
1	EEAP Project implementation	✓	✓	✓	✓	✓	✓
2	Overall infrastructure	✓	✓	✓	✓	✓	✓
3	Database/ Data server	✓	✓	✓	✓	✗	✗
4a	Set-up a connection between OAMs and the EEAP - sFTP	✓	✗	✗	✗	✗	✗
4b	Set-up a connection between OAMs and the EEAP – web services	✗	✓	✓	✓	✓	✓
5	Load metadata XML files	✓	✓	✓	✓	✗	✗
6	Query mechanism	✗	✗	✓	✓	✓	✗
7	Web Crawler	✗	✗	✗	✗	✗	✓
8	Search software application	✓	✓	✓	✓	✗	✓
9	User interface	✓	✓	✓	✓	✓	✓
10	Monitoring	✓	✓	✓	✓	✓	✓
11	Overall support	✓	✓	✓	✓	✓	✓

Source: KURT SALMON Final Data analysis report, September 2014.

5.4 Detailed methodology

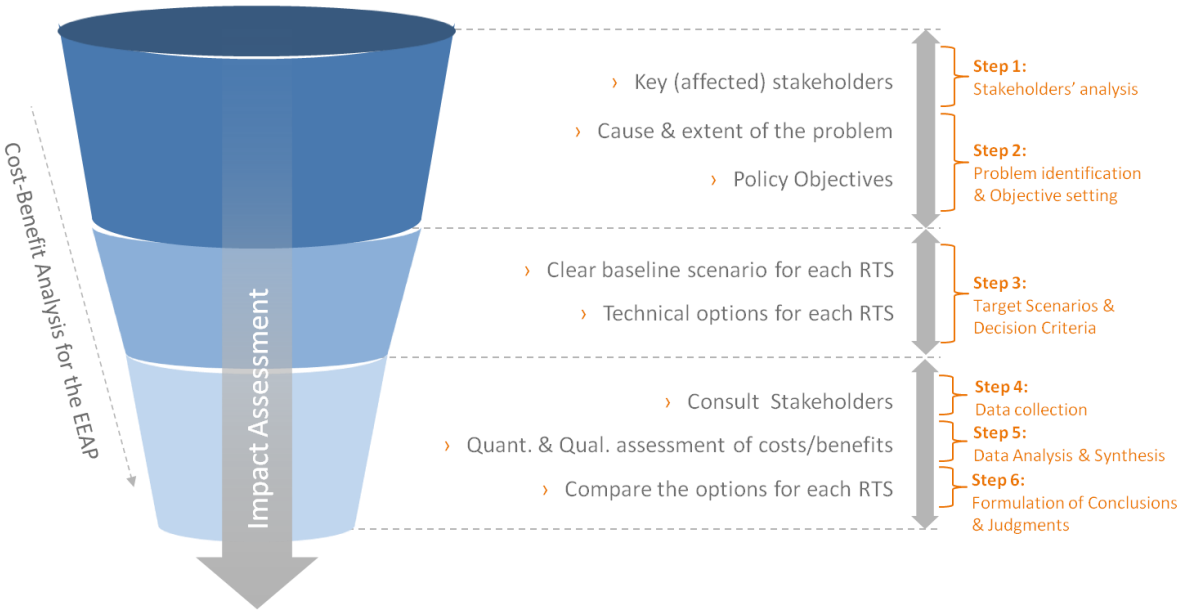
The specific objectives of the CBA can be formulated in three main business questions:

- BQ1. What are the main EEAP options that should be taken into account by the CBA?
- BQ2. What are the qualitative and quantitative benefits of each EEAP option?
- BQ3. What are the quantitative and qualitative costs for the EEAP implementation for each option?

Agreed upfront with the ESMA project officer, these questions, drove the CBA. The remaining of this section aims to answer to each of them, in terms of methodology used.

Following the IA guidelines[92], the overall cost-benefit approach followed a six-step methodology, as displayed on **Figure 10**.

Figure 10 Overall cost-benefit approach



Each step of the methodology is listed below and further described in the remaining of this section:

- Step 1: Stakeholders' analysis (Section 0);
- Step 2: Problem identification & Objective setting (Section 0);
- Step 3: Target Scenarios & Evaluation Criteria (Section 0);
- Step 4: Data Collection (Section 0);
- Step 5: Data Analysis & Synthesis (Section 0);
- Step 6: Formulation of Conclusions & Judgments (Section 0).

5.4.1 Step 1: Stakeholders' analysis

Stakeholder analysis provides a means to identify the relevant stakeholders who have a 'stake' or interest in the study under consideration. The main outcome of this analysis is therefore an estimate of the population of stakeholders that would be affected by the EEAP target scenarios.

Four main stakeholders' groups are impacted by the establishment of the EEAP:

1. EU Organisations: This group mainly includes ESMA, who is in charge of developing and operating the EEAP.
2. National stakeholders: This group includes the OAMs and their operators, i.e. National Competent Authorities, national stock exchange, third parties.
3. Issuers: This group includes the issuers, who currently feed the OAMs.
4. Investors, potential investors and analysts, who are affected by the regulated information provided by issuers, may consult the information displayed on the OAMs portals and later on the EEAP.

Even though issuers are central in the EEAP, costs incurred on them are not taken into account in the CBA as they remain minor in comparison with the OAMs'.

The second step of the stakeholders' analysis is to create a stakeholder profile for each of these stakeholder groups. This allowed to understand how best to engage them in the CBA.

In this regards, the remaining of this section aims to describe the profile of each stakeholder group and the nature of their involvement in the CBA.

EU Organisations

As mentioned in the Art. 22 of the revised Transparency Directive[93], ESMA shall develop draft RTS setting technical requirements regarding access to regulated information at Union level. These standards will specify the technical requirements regarding communication technologies used by the OAMs, the operation of the central access point for the search for regulated information at Union level, the use of a unique identifier for each issuer by the OAMs, the common format for the delivery of regulated information by the OAMs and the common classification of regulated information by the mechanisms referred to in Article 21(2) and the common list of types of regulated information.

For this purpose, ESMA has appointed a specific Task Force, composed of ESMA representatives and 12 members, representing the major part of the market, including countries such as Germany (BaFin), Luxembourg (CSSF), United Kingdom (FCA), Spain (CNMV), Malta (MFSA) and Sweden (Swedish FSA). The Task Force also counts observers from the European Insurance and Occupational Pensions Authority (EIOPA) and the EC. This Task Force is reporting to the Corporate Reporting Standing Committee (SC), who conducts all ESMA's work on issues related to accounting, audit, periodic reporting and storage of regulated information.

National stakeholders

As mentioned in Art. 21(2) of the TDA, "the home Member State shall ensure that there is at least one officially appointed mechanism for the central storage of regulated information". In this regards, 31 OAMs were established in the EU. Depending on the country, these can be operated by the related NCA, national stock exchanges or third parties (private entity, commercial operators).

The establishment of an EEAP will impact the operation of the 31 OAMs[94] as they may change the procedures currently in place for accessing regulated information from the EEAP.
Even though these stakeholders were already consulted in February 2014 via a questionnaire[95], in order to collect information on their current facilities and their supervisory and operation arrangements, they were further consulted for the CBA specifically to get additional input on the potential costs and benefits that the EEAP may enhance for them.

Indirect costs for the implementation of the EEAP can be borne by NCAs, in case some of the costs incurred to OAMs are transferred to them. However, given that these costs cannot be predicted at the time of the report, they are not taken into account in the CBA.

Issuers

The TDA aims to harmonise the transparency requirements related to financial information of issuers whose securities are admitted to trading on a regulated market.

As defined in the TDA, issuers are legal entities governed by private or public law, including a State, whose securities are admitted to trading on a regulated market; the issuer being, in the case of depository receipts representing securities, the issuer of the securities represented.

Even though issuers are central in the EEAP, costs incurred on them are not taken into account in the CBA as they will remain minor, in comparison with the OAMs' or ESMA's.

Investors, potential investors and analysts

It is essential to understand the needs of investors (e.g. professional advisors, researchers, investors making use of OAMs services in the EU) while searching and accessing regulated information before defining the functional requirements of the search engine. Therefore, their input will be collected during the open consultation on the Consultation Paper including the Draft Regulatory Technical Standards (RTS), planned to be launched in Q1 2015.

5.4.2 Step 2: Problem identification & Objective setting

Following the Commission Impact Assessment guidelines, the impact of each individual option (benefits and costs of the option relative to the baseline) should be assessed for the purposes of the CBA. However, as

mentioned in the ESMA IA Manual, it is not necessary to carry out the first two steps of the complete EC's Impact Assessment process[96] ("problem identification" and "objective setting"), as these are not legally binding and have already been carried out by the Commission in the IA of the respective Directive and Regulation.

5.4.3 Step 3: Target scenarios & Evaluation criteria

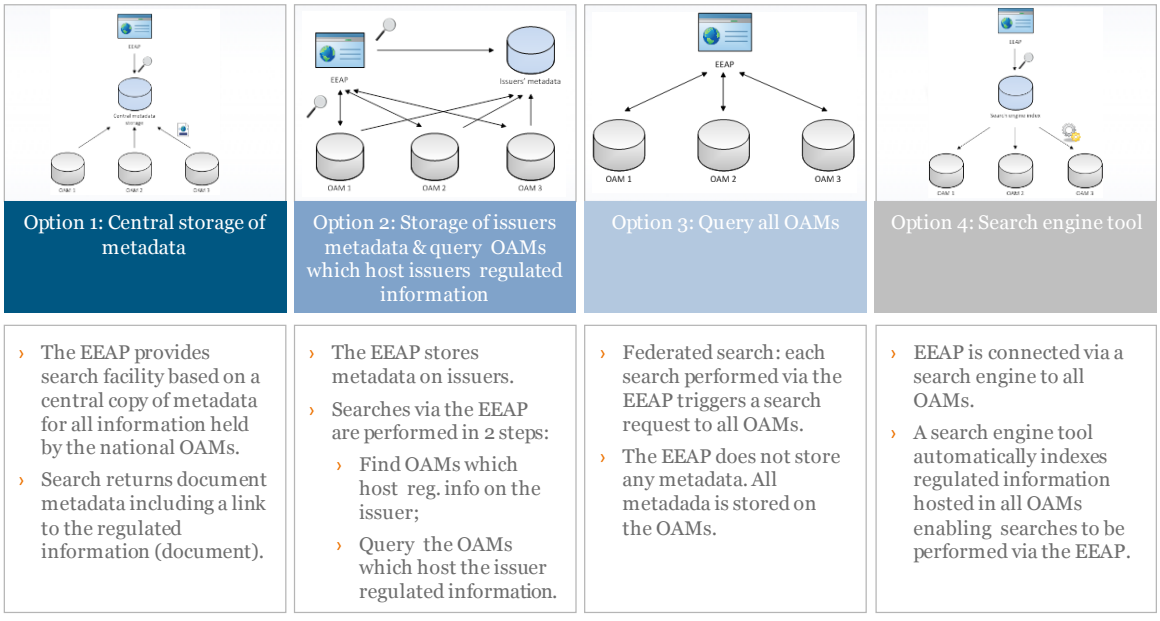
This sub-section aims at describing target scenarios on which KURT SALMON focused to perform the CBA and identifying the evaluation criteria set to compare the options.

Costs and benefits are expressed in economic terms (with a monetary value); we refer to them as 'quantitative' costs and benefits. On the other hand, costs and benefits that cannot be quantified in economic terms are referred to as 'qualitative'.

Target scenarios

This CBA defined the costs and benefits related to the four options considered to implement the EEAP and displayed on Figure 11.

Figure 11 EEAP options



KURT SALMON analysed each of these options and the potential impacts they may have, prior to benchmarking with similar initiatives launched at European level, such as the European Case Law Identifier (ECLI) from DG JUST or the Interconnection of National Insolvency Registers (IR) also from DG JUST with similar EU initiatives, such as EUCARIS[97] and ERRU[98].

Evaluation criteria

In line with the Impact Assessment Guidelines (2009), the most important criteria to evaluate the different options are the ones directly related to the objectives of the EEAP requirements stipulated in the TDA. In other words, the options should achieve the objectives with minimum side effects, i.e. least compliance costs for the EEAP implementation.

In this regards, in order to evaluate and compare the EEAP options, two main evaluation criteria were used:

- Efficiency, i.e. the extent to which the EEAP can be established at least-cost. Therefore, this evaluation aims to identify the 'least-costly' EEAP option(s).
- Effectiveness, i.e. the extent to which the EEAP options achieve the European Commission requirements stipulated in the TDA (EEAP objectives), in terms of increased benefits or lowest complexity. This evaluation aims to identify the EEAP options supposed to deliver the 'best-value-for-money'.

A qualitative analysis of the risks associated to the technical implementation of each EEAP option is also performed, as these may be relevant for choosing the preferred EEAP option.

It should also be noticed that each assessment was performed towards the baseline scenario, i.e. the ''do nothing option''.

Table 17 illustrates a map of the stakeholders affected (input from the stakeholders' analysis) and corresponding regulatory costs and benefits aimed to be assessed in the CBA.

Table 17 Map of regulatory costs and benefits on EEAP stakeholders

Category	Sub-Category	Stakeholders affected			
		ESMA	OAMs	Issuers	Investors
Direct Costs	Regulatory charges				
	Substantive compliance costs	☑	☑		
	Administrative Burden				
	Hassle Costs				
Indirect Costs	Indirect Compliance costs			☑	
	Other indirect costs				
Direct Benefits	Wide range of products/services				☑
	Improved Information	☑			☑
	Cost Savings				☑
Indirect Benefits	Indirect Compliance Benefits		☑	☑	☑
	Wider macro-economic benefits				

As displayed in Table 17 the regulatory costs for the establishment of the EEAP can be categorized as direct and indirect costs.

Direct costs can be broken down into regulatory charges, substantive compliance costs, administrative burden and hassle costs[99].

- Regulatory charges include fees, levies, taxes, etc.
- Substantive compliance costs encompass those investments and expenses that are faced by businesses and citizens in order to comply with substantive obligations or requirements contained in a legal rule.
- Administrative burdens are those costs borne by businesses, citizens, civil society organizations and public authorities as a result of administrative activities performed to comply with information obligations included in legal rules.
- Hassle costs are often associated with businesses, but they apply equally well to consumers: they include costs associated with waiting time and delays, redundant legal provisions, corruption etc.

Indirect costs refer to the costs incurred in related markets or experienced by consumers, government agencies or other stakeholders that are not under the direct scope of the regulation. These mostly relate to indirect compliance costs, i.e. the costs related to the fact that other stakeholders have to comply with legislation. However, they may also concern the costs related to substitution (e.g. reliance on alternative sources of supply), transaction costs and negative impacts on market functioning such as reduced competition or market access, or reduced innovation or investment.

As displayed in Table 17, the benefits for the establishment of the EEAP can be categorized as direct and indirect benefits.

Direct benefits can be expressed in terms of additional citizens' utility, welfare or satisfaction (in the context of the EEAP, a wider range of products and services, improved information) and improved market efficiency, which might include improvements in the allocation of resources, removal of regulatory or market failures, or cost savings generated by regulation.

Indirect benefits mostly relate to the indirect compliance benefits, i.e. spill over effects related to third-party compliance with legal rules. Indirect compliance benefits can be defined as all those benefits that accrue to individuals or businesses that are not the addressees of the regulation, but that enjoy positive effects due to the fact that other have to comply with the regulation. Wider macroeconomic benefits such as GDP increases, competitiveness and productivity effects, are other types of indirect benefits that were identified in the context of the EEAP, to a lesser extent.

5.4.4 Step 4: Data Collection

To ensure the effective and efficient collection of data, our team emphasizes the need to systematically conduct appropriate ex-ante desk research, to better frame the scope of the CBA, prior to use any other data collection method.

In total, four different data collection strategies are used for conducting EEAP CBA: desk research, individual/group interviews, a workshop and online questionnaires. Table 2 illustrates a map of the stakeholders affected (input from the stakeholders' analysis) and corresponding regulatory costs and benefits.

Table 18 Regulatory costs/benefits mapped with research methods

Regulatory Costs/Benefits	Desk Research	Interviews		Workshop	Online Questionnaire
		ESMA	OAMs	OAMs	OAMs
Direct Costs - Substantive Compliance Costs	●●	●●●	●	●	●●●
Indirect Costs – Indirect Compliance Costs	●●	●		●	
Direct Benefits – Wide range of products/services	●●				●
Direct Benefits – Improved Information	●●●				
Indirect Benefits – Indirect compliance benefits –	●●	●			●●

The remaining of this section digs further into each of these methods, as well as quality controls to be performed on data collected.

Desk Research

The desk research consists in reviewing all available documents on EEAP in order to obtain a clear picture of the field of study. Desk Research is the instrument to screen and collect legal, policy, and technical information from documentation available at national and EU level and therefore be able to review the possible scenarios considered for each RTS.

The data collection covers legal texts, policy documentation, information available on OAM's websites, other secondary sources (e.g. previous studies on OAMs practice), and documents related to the possible scenarios defined by ESMA, as well as to the qualitative analysis to be conducted. A selection of relevant documents is shown in Table 19.

Table 19 List of documents for desk research

ID	Title
1	Transparency Directive (Directive 2004/109/EC)
2	Directive 2013/50/EU amending the existing Transparency Directive (2004/109/EC)
3	Commission Recommendations of 11 October 2007
4	Discussion Papers on the communication technologies used by OAMs, on the requirements for the EEAP for the search of regulated information (Article 22 (1)b of the TDA), on the requirements for the use of a Unique Identifier (Article 22 (1) c) of the TDA), on the common format for the delivery of regulated information by the OAMs and on the common classification of regulated information and the common list of types of regulated information (Article 22 (1) (e) of the TDA).
5	EEAP questionnaire: OAM's Capabilities (and related answers collected)
6	EEAP questionnaire: OAM's Capabilities / National Competent Authority's views on EEAP (and related answers collected)
7	Proposal for a Directive of the European Parliament and of the Council amending Directive 2004/109/EC on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and Commission Directive 2007/14/EC
8	Transparency Directive Assessment Report, Final Report, MAZARS, 2009
9	Feasibility Study for a pan-European storage system for information disclosed by issuers of securities - Final Report, ACTICA Consulting 2011
10	Summary of response from the consultation on the modernisation of the Transparency Directive 2004/109/EC
11	Consultation paper 'Development of Pan-European Access to Financial Information Disclosed by Listed Companies'
12	Commission Staff Working Document, The review of the operation of Directive 2004/109/EC: emerging issues

Interviews

The interviews with key informants aim at collecting the information directly from the stakeholders concerned by this study. Generally, a distinction is to be made between structured, semi-structured and non-structured interview methods. The use of each interview method depends on the purpose of the interview and the nature of the information that is being sought.

Individual interviews with ESMA are necessary to complement the collected data from the two previous questionnaires launched by ESMA, gain further understanding of the benefits and validate the data gained by other data collection means (e.g. desk research). Interviews, as a data collection method, provide in-depth information on explaining the reasoning leading to certain actions and describing the phenomena in question (i.e. answering to question types “how?” “why?”).

Online questionnaires

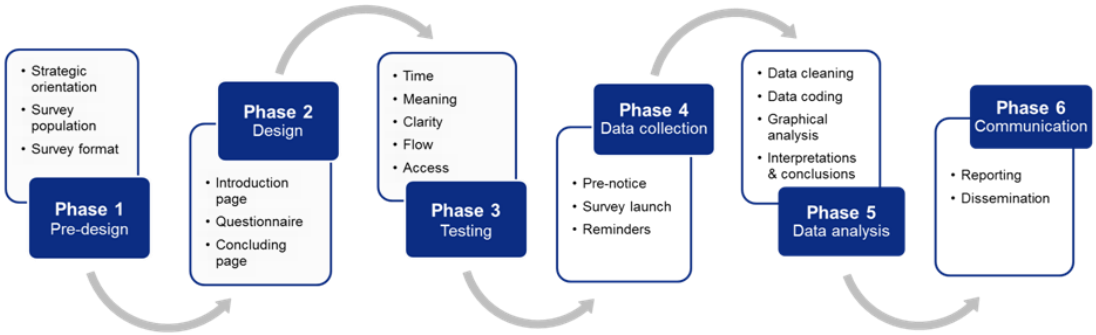
Online questionnaires aim at collecting data from a sample of the population, through a structured, limited set of questions, in order to quantify the costs and benefits (if possible) of the EEAP. It is a powerful research instrument to provide quantitative figures on a phenomenon or a perception.

Two online questionnaires administered online, aim to be addressed to the OAMs for collating quantitative and monetize costs, and qualitative benefits from the OAMs perspective and investors, to collect the main benefits expected from the EEAP, in the short- and long-term.

For conducting the survey, we relied on a simplified approach based on best practices from the OECD, and our previous work on similar projects because of the time constraint. As described in Figure 12, the scope of the survey is first defined (phase 1), followed by the design of the questionnaire (phase 2). Once tested on a small group of stakeholders (phase 3)[100], the survey is then launched and the related data collected (phase 4), analysed (phase 5) and the results communicated (phase 6).

All online questionnaires are to be administered online using EU Survey, the dedicated tool developed by the EC.

Figure 12 Overall approach for conducting field specific survey



Most questions from the questionnaire were multiple-choice questions, based on 5-point Likert scales ranging from '1' to '5':

- In order to reduce bias from respondents having no opinion on a topic, all the 5-point Likert scales included an additional "I don't know/No opinion" option.
- In order to allow further analysis, these questions were complemented by open questions allowing respondents to comment on their answers.

On the other hand, some questions, such as the ones allowing respondents to comment on their answers, remained open. Answers to these types of questions were analysed primarily using coding techniques. In this case, the unstructured data were firstly categorised (answers grouped in different categories). Secondly, numbers were assigned to each category in order to allow the data to be processed quantitatively.

Aware of the potential difficulty for respondents to assess the costs incurred on OAMs for each item evaluated (e.g. establish a sFTP connection, generate XML files in a proposed common metadata format), for each question, KURT SALMON enabled the respondents to assess the costs in a qualitative way, by assessing the complexity to implement each item.

For instance, while the estimated cost to establish a sFTP connection between an OAM and the EEAP to transfer information was addressed, respondents were also asked the extent to which this implementation would be complex.

Prior to the questionnaire distribution, a workshop with OAMs aim to be organised in order to explain the purpose of the study, as well as to gather their views/opinions on the questionnaire.

In order to assess the validity of the OAM questionnaire, KURT SALMON proceeds with a pilot-test addressing a restricted sample of respondents (''face validity''[101]). This process allows to understand any weakness of the questionnaire (e.g. questions not well phrased) prior to launching it to the full sample of recipients. Furthermore, each questionnaire is pre-tested by other consultants from KURT SALMON without particular knowledge on the topic evaluated.

Workshop

Our experience shows that workshops are a very efficient and effective format for gathering expectations and feedbacks from different stakeholder groups.

The main objective of organising a workshop with the OAMs during the inception phase of this study is to explain the purpose of the study, the CBA scenarios and the scope of qualitative and quantitative information to be provided. To achieve this objective, the workshop aims to involve representatives of the main stakeholder group (OAMs), as well as EEAP Task Force members.

The format of the workshop aims to be participative leveraging interactive voting tools to improve the participation and engagement of stakeholders in the CBA. This can bring additional value compared to more traditional methods such as lectures or presentations.

Quality Controls

Prior to analysing these data, several checks aim to be performed by KURT SALMON to ensure that the analysed data is reliable and valid. These checks (triangulation, coherence and validity of data) are further described in the remaining of this section.

Triangulation of data

While analysing data, the contractor ensured that the "use of data collected using different tools and from different sources, and/or analysis from different theoretical perspectives and by different analysts, and at different time"[102].

This definition, taken from the practical guide for the Commission services on how to 'Evaluate EU activities', is related to the so-called 'Triangulation of data' and ensures an unbiased and objective data collection analysis and assessment.

Triangulation of data is part of our quality strategy and aims to ensure validity of the results. When planning triangulation of data, the evaluators consider whether the data collected is qualitative or quantitative. This is necessary because the meaning of validity is not the same for qualitative and quantitative research.

In quantitative research, validity refers to whether the findings of a study are true and certain —"true" in the sense that research findings accurately reflect the situation and "certain" in the sense that research findings are supported by evidence. When addressing the validity of qualitative data, one focused more on the "true" meaning than on the accuracy of the data collected.

The workshop with experts aims to generate perception data that can triangulate with survey and interviews data, but more importantly prompts a deeper discussion to justify and explain the study results.

In any case, the assessment questions should be looked at from different standpoints and by different methods. In general, our evaluation uses a mix of qualitative and quantitative methods, in order to draw robust conclusions on our findings.

Coherence of data

Our team is able to carry out statistical tests of validity and reliability of the selected data, when appropriate. However, given the context of this study, our suggestion would be to opt for a more pragmatic approach that aims at verifying the coherence of the data collected.

For the assessment of coherence, we suggest to check if data responds to the following principles, which are based on criteria for the quality of indicators, known as RACER (Relevant, Accepted, Credible and Robust against manipulation) in the Commission Impact Assessment guidelines.

- **Relevant: closely linked to the objectives to be reached (in this case, measured). This means to verify if the data is representative of the universe to be measured and if it provides sufficient details.**
- **Accepted: this can be verified through a consultation with the EEAP Task force members.**
- **Credible: unambiguous and easy to interpret; this can be verified through a consultation with stakeholders (e.g. group interviews).**
- **Robust against manipulation: this is assessed by our team, for example through sensitivity analysis.**

Concerning reliability, we aim to use the following assessment criteria:

- Scientific quality: Metrics, calculation methods and presentation of results should be of high scientific quality;
- Full transparency: the data collection and calculation methods should be clear, fully documented (within the inception report) and the raw data should be made available.

This latter criterion is a condition of the quality of the data.

Measurement validity

This sub-section describes how we proceed in case questionnaires' quality is affected by missing data.

By missing data, we refer to "don't know" answers to mandatory questions. In fact, blank answers to questions implying optional answers do not create any issue on the reliability of the data collected. All our questionnaires include a "don't know" for mandatory answers possibility in order to reduce bias from respondents having no opinion on a topic.

5.4.5 Step 5: Data Analysis & Synthesis

A wide range of techniques can be used to enhance the effectiveness of a CBA and result in a quantification of costs and benefits. ESMA Impact Assessment manual (2013) and the EC Impact Assessment guidelines (2009) describe methodologies at hand, from which we can choose the most appropriate for the EEAP. The following four activities are carried out to analyse and synthesise data:

1. Quantification of costs over five years for ESMA and the OAMs;
2. Qualitative assessment of benefits assuming that these cannot be monetised;
3. Comparison of estimated costs applying a discount rate;

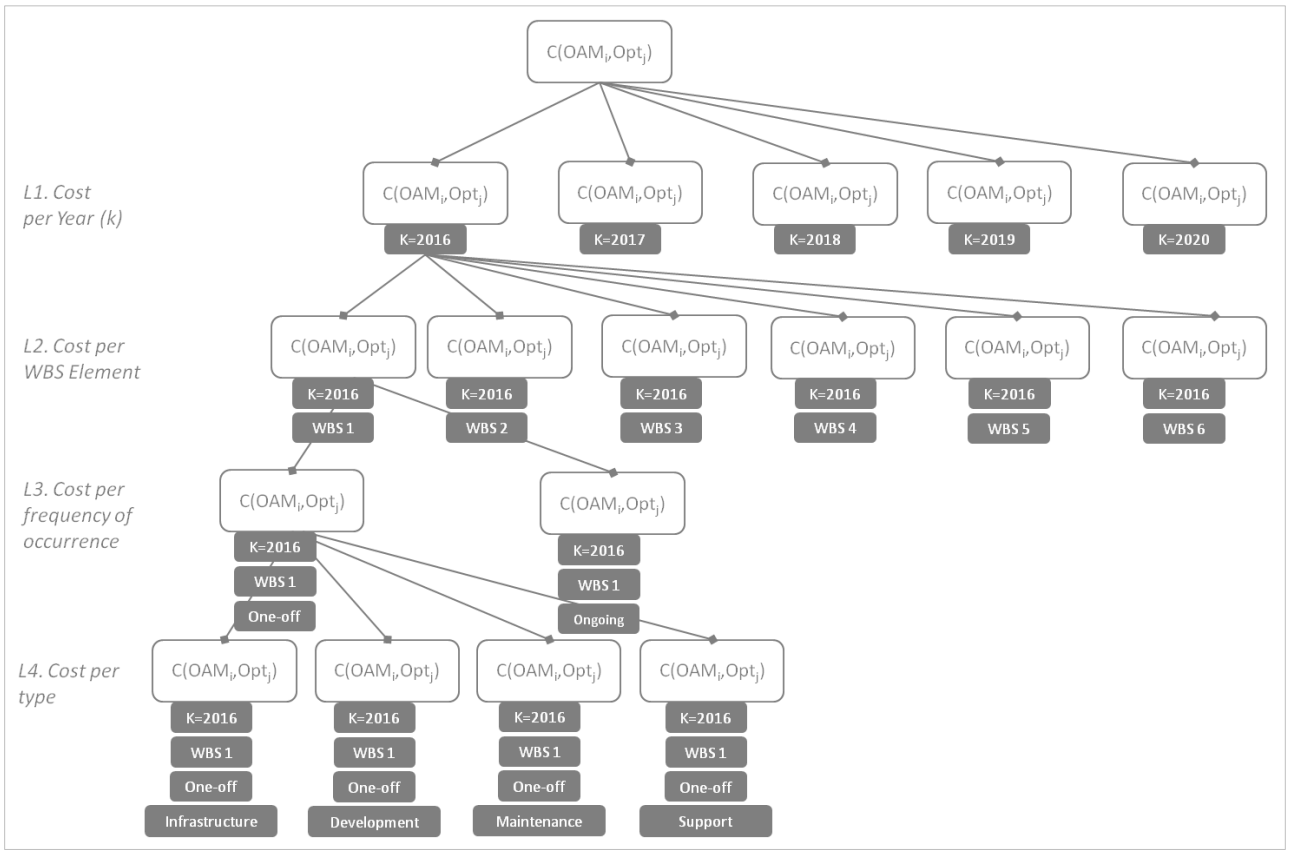
4. Conclusions on the EEAP options based on the evaluation criteria and a qualitative analysis of the risks related to the technical implementation of each EEAP option.

Step 1 – Quantification of costs over five years for ESMA and the OAMs

The online questionnaire is the main instrument employed to quantify costs for the OAMs over five years. Interviews are used to complement the data collated through the on-line survey and to estimate the costs for ESMA.

As displayed in Figure 13, for each option, we identify the Work Breakdown Structure[103104] (WBS), as well as the corresponding breakdown of the costs of the various WBS elements, to establish the EEAP by the OAMs and ESMA.

Figure 13 Quantification of costs over five years



Step 2 – Qualitative assessment of benefits assuming that these cannot be monetised

We determine the likely importance of OAMs benefits using scores or ranking questions included in the online questionnaire. On the other hand, extensive desk research is used to evaluate the benefits for ESMA, issuers and investors.

Step 3 – Comparison of estimated costs applying a discount rate

The economic value of the EEAP implementation can be measured using different techniques. However, considering the short timeframe of this CBA, the Net Present Value (NPV) is the preferred evaluation criterion, since each EEAP scenario has the same time horizon (five years). A discount rate of 4%[105] is applied to costs, but not to benefits since these cannot be monetised.

The discount rate is a correction factor that allows the comparability of costs and benefits in different points in time considering options with same time horizons. In that regards, the Commission Impact Assessment guidelines recommend to apply the standard discount rate of 4%. This discount rate broadly corresponds to the average real yield on longer-term government debt in the EU over a period since the early 1980s[106].

Step 4 – Conclusions on the EEAP options based on the evaluation criteria and a qualitative analysis of the risks related to the technical implementation of each EEAP option

5.4.6 Step 6: Formulation of Conclusions and Judgments

Based on monetized cost of each technical option, their associated risks, and qualitative benefits, KURT SALMON is able to draw conclusions on each option.

5.5 Calculation of the quantitative costs

5.4.1 ***Estimation of OAM Costs***

The cost estimations for the EEAP implementation by the OAMs were estimated using the following formula for a given OAM (i) and a specific option (j).

$$c(i,j) = \sum_{k=0}^{4} \frac{1}{(1+d)^k} * \sum_{l=1}^{6} \left\{ c_{WBS}(j,k,l,1,1) + F * \left[\sum_{n=3}^{4} c_{WBS}(j,k,l,2,n) + c_{WBS}(j,k,l,1,2) \right] \right\}$$

Where:

- $c_{WBS}(j,k,l,m,n)$ stands for the cost associated to a given OAM (i), broken down into one-off or on-going costs (m) and type of expenditures (n), of for implementing the EEAP based on a work breakdown structure of l elements for a specific option (j) and a specific year (k).
- F_{OAM} = Conversion factor provided by DG ESTAT[107] for each country and adjusted to the skills required for the implementation of the EEAP, to translate person days into Euros.
- $d = 4\%$, which stands for the discount rate
- $i = 1\ to\ 21$, which stands for the number of OAMs
- $j = 1\ to\ 4$, which stands for the number of options foreseen in RTS 22(1)b
    - $j = 1$ (Option 1)
    - $j = 2$ (Option 2)
    - $j = 3$ (Option 3)
    - $j = 4$ (Option 4)
- $k = 1\ to\ 5$, which stands for the year the cost will occur
    - $k = 1$ (Year 2016)
    - $k = 2$ (Year 2017)
    - $k = 3$ (Year 2018)
    - $k = 4$ (Year 2019)
    - $k = 5$ (Year 2020)
- $l = 1\ to\ 6$, which stands for the WBS elements required to implement EEAP by OAMs
    - $l = 1$ (WBS1 - Set up a connection between OAMs and the EEAP – sFTP)
    - $l = 2$ (WBS2 - Set up a connection between OAMs and the EEAP – web services)
    - $l = 3$ (WBS3 - Extract, Generate & Transmit XML files immediately after the updates)
    - $l = 4$ (WBS4 - Extract, Generate & Transmit XML files once a day)
    - $l = 5$ (WBS5 - Extract, Generate & Transmit XML files in real-time)
    - $l = 6$ (WBS6 - Extract, Generate & Store XML files)
- $m = 1\ to\ 2$, which stands for the cost category
    - $m = 1$ (one-off)
    - $m = 2$ (ongoing)
- $n = 1\ to\ 4$ (type of expenditure)
    - $n = 1$ (Infrastructure)
    - $n = 2$ (Development)
    - $n = 3$ (Maintenance)
    - $n = 4$ (Support).

[107] Rate based on http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/3-10042013-AP/EN/3-10042013-AP-EN.PDF

5.4.2 ***Estimation of ESMA Costs***

The cost estimations for the EEAP implementation by ESMA were estimated using the following formula for a specific option (j):

$$c_{reg}(0,j) = \sum_{k=0}^{4} \frac{1}{(1+d)^k} * \sum_{l=1}^{12} \left\{ c_{WBS}(j,k,l,1,1) + F_{reg} * \left[\sum_{n=3}^{4} c_{WBS}(j,k,l,2,n) + c_{WBS}(j,k,l,1,2) \right] \right\}$$

Where:

- $c_{WBS}(j,k,l,m,n)$ stands for the cost associated to ESMA (i=0), broken down into one-off or on-going costs (m) and type of expenditures (n), of for implementing the EEAP based on a work breakdown structure of l elements for a specific option (j) and a specific year (k).
- $F_{ESMA} =$ Conversion factor provided by the European Commission and adjusted to ESMA, to translate person days into Euros.
- $d = 4\%, which\ stands\ for\ the\ discount$ rate
- $i = 0$, which stands for the regulator (ESMA)
- $j = 1\ to\ 4$, which stands for $the\ n$umber of options foreseen in RTS 22(*1*)b
    - $j = 1$ (Option 1)
    - $j = 2$ (Option 2)
    - $j = 3$ (Option 3)
    - $j = 4$ (Option 4)
- $k = 1\ to\ 5$, which stands for the year the cost will occur
    - $k = 1$ (Year 2016)
    - $k = 2$ (Year 2017)
    - $k = 3$ (Year 2018)
    - $k = 4$ (Year 2019)
    - $k = 5$ (Year 2020)
- $l = 1\ to\ 12$, which stands for the WBS elements required to implement EEAP by ESMA
    - $l = 1$ (WBS1 – EEAP Project implementation)
    - $l = 2$ (WBS2 – Overall infrastructure)
    - $l = 3$ (WBS3 – Database/ Data server)
    - $l = 4$ (WBS4 – Set-up a connection between OAMs and the EEAP – sFTP)
    - $l = 5$ (WBS5 – Set-up a connection between OAMs and the EEAP – web services)
    - $l = 6$ (WBS6 – Load metadata XML files)
    - $l = 7$ (WBS7 – Query mechanism)
    - $l = 8$ (WBS8 – Web crawler)
    - $l = 9$ (WBS9 – Search Software application)
    - $l = 10$ (WBS10 – User interface)
    - $l = 11$ (WBS11 – Monitoring)
    - $l = 12$ (WBS12 – Overall support)
- $m = 1\ to\ 2$, which stands for the cost category
    - $m = 1$ (one-off)
    - $m = 2$ (ongoing)
- $n = 1\ to\ 4$ (type of expenditure)
    - $n = 1$ (Infrastructure)
    - $n = 2$ (Development)

- $n = 3$ (Maintenance)
- $n = 4$ (Support).

Annex III – Summary of questions

Q1. Do you agree with the proposed search criteria? If not, what other search functionalities should the EEAP provide to end-users?

Q2. Do you agree with the requirements to ensure an easy access to regulated information?

Q3. Do you agree with the requirements on availability service, technologies used and support?

Q4. Do you agree with technical infrastructure chosen by ESMA?

Q5. Do you agree with the abandoned list of requirements? If not, which one (s) should ESMA reconsider? Please provide your reasoning

Q6. Are there any other requirements not mentioned in this section that should be considered by ESMA? Please provide your reasoning

Q7. Do you agree with the requirements on the technologies used, support and maintenance for OAMs?

Q8. Do you agree with the requirements to facilitate the access to regulated information?

Q9. Do you agree that the LEI should be used by OAMs as the unique identifier for each issuer?

Q10. Do you agree that in absence of a LEI corresponding to a natural person, an OAM shall use the CONCAT code as the unique identifier?

Q11. Do you agree with the requirements on the common format of the information to be enabled to the EEAP by OAMs?

Q12. Do you agree with the requirements on the common format for the delivery of regulated information?

Q13. Do you agree with the common list of regulated information?

Q14. In your opinion, while searching for financial information about a specific company (on national OAMs websites); what is the preferred way to classify/organise this information (for more information on the options, please see the picture below)? Please provide your reasoning

Q15. Please classify which type of Stakeholder you qualify? (please tick one as appropriate)

- ☐ Financial Analysts
- ☐ Retail investor associations
- ☐ Other stakeholders' associations
- ☐ Institutional investors
- ☐ Issuers
- ☐ Auditors/ Accounting bodies
- ☐ Others (please specify in the textbox below)

Q16. In your opinion, which type of stakeholder would benefit the most from the EEAP? (please tick one as appropriate)

- ☐ Financial Analysts
- ☐ Retail investor associations
- ☐ Other stakeholders' associations
- ☐ Institutional investors
- ☐ Issuers
- ☐ Auditors/ Accounting bodies
- ☐ Others (please specify in the textbox below)

Q17. Once the EEAP is operational, would it become your first source for searching for financial information about a specific company? Please provide details

Q18. Once the EEAP is operational, how much time do you expect to save (in comparison with the current situation) while searching for financial information about a specific company (per search)?

- ☐ Less than 5 minutes
- ☐ Between 5 and 15 minutes
- ☐ Between 15 and 30 minutes
- ☐ Between 30 minutes and 1 hour
- ☐ More than 1 hour
- ☐ Don't know/ No opinion

Q19. Which type of regulated information would you more often search while using the EEAP (please tick one as appropriate)?

- ☐ Historical financial statements (annual / half yearly financial reports)
- ☐ Price Sensitive information
- ☐ Major shareholdings notifications
- ☐ Payments to governments
- ☐ Trading on own shares
- ☐ Total number of voting rights and capital
- ☐ Changes in the rights attaching to the classes of shares or securities

Q.20 In your opinion, to what extent will the EEAP provide the following benefits? Please rate each benefit from 1 to 5 according to the benefits expected by market participants (1 being the lowest amount of expected benefits and 5 the highest).

	1	2	3	4	5	Don't know / No opinion
Improved quality of the information accessed by investors (e.g. harmonised classification of Regulated Information, comparability of information).	☐	☐	☐	☐	☐	☐
Increased interest from market participants (e.g. more investments, more investors).	☐	☐	☐	☐	☐	☐
Increased quantity of information accessed by investors (e.g. disclosure of corporate ownership).	☐	☐	☐	☐	☐	☐
Reduced costs while searching for Regulated Information (e.g. time saved).	☐	☐	☐	☐	☐	☐
Easier cross-market searches for Regulated Information, facilitating investment decisions.	☐	☐	☐	☐	☐	☐
Faster cross-market searches for Regulated Information.	☐	☐	☐	☐	☐	☐

Q21. In your opinion, will the EEAP bring any additional benefit(s) to end-user?

☐ Yes

☐ No

☐ Don't know / No opinion (please explain below)

Annex IV – Draft regulatory technical standard

EUROPEAN COMMISSION

Brussels, […]
C(20..) yyy final

COMMISSION DELEGATED REGULATION (EU) No …/..

of [ ]

Draft

COMMISSION DELEGATED REGULATION (EU) No …/..
of […]

supplementing Directive 2004/109/EC of the European Parliament and of the Council with regard to certain regulatory technical standards on [refer to the subject matter of the RTS]

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC [108], and in particular points (a) to (e) of Article 22 thereof,

Whereas:

(1) In accordance with Directive 2004/109/EC, ESMA should develop and operate a European electronic access point (the "EEAP"). The EEAP should serve as a web portal and should not assume the functions of official appointed mechanisms (OAMs) in respect of storage of regulated information. The EEAP should provide access to all regulated information stored by all OAMs, avoid the duplication of data storage and minimise the risks of security of data exchange.

(2) In order to ensure an easy search for regulated information, the EEAP should enable the end-user to search by reference to the identity of an issuer, the home Member State or the type of regulated information. In order to ensure easy access to regulated information, the EEAP should enable the end-user to access documents which contain the regulated information requested by the end-user through hyperlinks to OAMs' websites where this information is stored. The end-user should not be charged for use of the EEAP. However, the download or visualisation of documents from an OAM website should be subject to the pricing policy of the OAM concerned.

(3) The proper functioning of the EEAP and the fullfilment of its objectives are also dependent on the communications technologies used and efficient exchange of metadata on regulated information between the EEAP and the OAMs.

(4) The development and operation of the EEAP and its connection with OAMs should be guided by the need to ensure the security, integrity and high level of availability of the system and should take into account future developments in communication technologies.

(5) In accordance with the objective under Directive 2013/50/EU of enabling cross-border searches and to provide accurate search results, an OAM should use a unique identifier for each issuer of securities admitted to trading on a regulated market. Harmonisation of the unique identifiers used by OAMs should enable end-users of the EEAP to identify more readily issuers for whom the end-users seek information. Moreover, in the light of the globalization and integration of financial markets at the international level it is desirable to ensure that the

[108] OJ L 390. 31.12.2004, p. 38.

unique identifiers should be accepted internationally, be suitable to be assigned to any issuer, be consistent in time, have a limited financial impact on issuers and OAMs, and take into account future developments in this area. Therefore, OAMs should use a legal entity identifier as the identifier for each issuer of securities admitted on a regulated market.

(6) Harmonisation of the format used to exchange information between the EEAP and the OAMs is necessary in order to ensure the effective functioning of the EEAP. Accordingly, the identification of the appropriate format for exchange of information should take into account the security exchange and validation attributes of the most common standard formats used in the market. As the EEAP should not assume the functions of OAMs in respect of storage of regulated information, the format for exchange of regulated information should set the metadata on regulated information to be enabled by an OAM to ensure a focussed search and fast access to regulated information by end-users.

(7) As the definition of "regulated information" is not fully harmonised at the Union level, establishing a common list of types of regulated information will enable investors to have a better understanding of the information subject to the requirements of accuracy, comprehensiveness and timely dissemination by issuers as set out in the Transparecy Directive. A common labelling and classification of regulated information will enable investors using the EEAP to focus their search requests on the types of information of their interest, contributing for cost savings in obtaining the information necessary for their decision making process.

(8) In developing the draft regulatory technical standards, ESMA has taken into account the technical requirements for the system of interconnection of business registers established by Directive 2012/17/EU of the European Parliament and of the Council. This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.

(9) In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and the Council establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC[1109], in developing the draft regulatory technical standards on which this Regulation is based, ESMA has conducted open public consultations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation.

[109] OJ L 331, 15.12.2010, p. 84).

HAS ADOPTED THIS REGULATION:

Chapter I

CENTRAL ACCESS POINT FOR THE SEARCH FOR REGULATED INFORMATION

(Article 22(1)(b) of Directive 2004/109/EC)

Article 1

Easy search for regulated information

1. The EEAP shall enable end-users to search for regulated information stored by an OAM using the following search criteria:

    a. The name of the issuer from which the regulated information originated;

    b. The unique identifier of the issuer as defined by Article 6;

    c. The home Member State of issuer;

    d. The regulated information as classified in Article 8 (2);

2. For the purpose of the search of the name of issuer prescribed in Article 1 (1) (a), the EEAP shall enable search for the issuer's name in all available language versions of the issuer's name that are stored by an OAM.

3. The EEAP shall provide search results, in accordance with the search criteria selected by end-users, in the form of a list of metadata as prescribed by Article 7 (2).

Article 2

Easy access to regulated information

1. The EEAP shall provide end-users with the metadata on regulated information stored by an OAM in accordance with Article 21 (1) of Directive 2004/109/EC and enabled to the EEAP.

2. The metadata referred in paragraph 1 shall include hyperlinks to the webpage of the OAM containing hyperlinks which enable the visualization and/or download of documents containing regulated information, including all language versions of such documents, disseminated by issuers and stored by an OAM in accordance with Article 21 (1) of Directive 2004/109/EC.

3. The EEAP shall provide access to metadata on regulated information to end-users free of charge. However, the visualisation and/or download of a document containing regulated information will, in each case, be subject to the pricing policy of the OAM concerned.

4. The EEAP shall, as far as practicable, provide access to end-users through various types of browsers and devices, including mobile devices.

Article 3

Technologies used, availability and support level

1. The EEAP shall use communication technologies which ensure the security and integrity of the metadata on regulated information exchanged between an OAM and the EEAP.

2. Subject to the requirement referred to in paragraph 1 to ensure security and integrity, the EEAP shall use the HTTPs protocol to connect to an OAM.

3. The EEAP shall be easily scalable and adaptable to changes in the volumes of search requests and data to be indexed.

4. The EEAP shall implement the necessary infrastructure to ensure the high availability and usability of the website.

5. The configuration, parameters and metadata of the EEAP shall be backed up on a regular basis. In the event of a system failure, the EEAP shall be restored exactly as it was before the last back up.

6. Support for the EEAP users and an OAM's operators shall, at minimum, be provided by way of an email response from the EEAP. Such response shall be provided within ESMA working hours.

Chapter II

COMMUNICATION TECHNOLOGIES USED

(Article 22(1)(a) of Directive 2004/109/EC)

Article 4

Comunication technologies used, support and maintanance

1. An OAM shall use the HTTPs protocol to connect to the EEAP. However, if for reasons of security or integrity the EEAP ceases to use the HTTPs protocol for the purpose of establishing the connection with the OAMs, each OAM shall implement forthwith all necessary technological measures to ensure the on-going security and integrity of its connection to the EEAP. In particular, each OAM shall use communication technologies which are compatible with the new protocol used by the EEAP.

2. An OAM shall implement the necessary infrastructure to ensure the high availability of the connection between the OAM and the EEAP.

3. An OAM shall provide service support, within its working hours, for the purposes of the maintenance of the connection between the OAM and the EEAP and of incident escalation.

4. An OAM shall make necessary changes to its management and implementation procedures in order to ensure that its connection to the EEAP is not negatively impacted by changes to its internal systems.

Article 5

Facilitation of access to regulated information

1. An OAM shall ensure that metadata on regulated information can be indexed by the EEAP.

2. An OAM shall enable the EEAP to access the metadata on regulated information stored by an OAM in accordance with Article 21 (1) of Directive 2004/109/EC.

3. The metadata referred in paragraph 2 shall include hyperlinks to the webpage of the OAM containing hyperlinks which enable the visualisation and/or download of documents containing regulated information, including all language versions of such documents, disseminated by issuers and stored by an OAM in accordance with Article 21 (1) of Directive 2004/109/EC.

4. Upon any change to a stored document which contains regulated information, the OAM concerned shall update immediately the metadata on the documents containing regulated information concerned.

5. An OAM shall not charge for the access by the EEAP to metadata on regulated information. The visualisation or download of documents containing regulated information by the end-user will be subject to the OAM's pricing policy. However, an OAM shall not discriminate in its pricing policies between end-users who access information directly through the OAM's website and end-users who access information indirectly through the EEAP.

Chapter III

UNIQUE IDENTIFIER, COMMON FORMAT, AND COMMON LIST AND CLASSIFICATION OF REGULATED INFORMATION

(Article 22(1)(c),(d) and (e) of Directive 2004/109/EC)

Article 6

Unique identifier

1. An OAM shall use a legal entity identifier (LEI) as the unique identifier for each issuer.

2. Where the issuer is a natural person and is not eligible for LEI, an OAM shall use the CONCAT code as a unique identifier.

3. The code referred in paragraph 2 shall be composed of the following elements which shall appear in capital letters: isocode – birthdate – firstname -surname, where:

    a. ISOCODE is the ISO 3166-1 alpha 2 code of the person's nationality,

    b. BIRTHDATE is the birth date of the person in the following format YYYYDDMM,

    c. FIRSTNAME is the first five letters of the person's first name,

    d. SURNAME is the first five letters of the person's surname.

e. A first name or surname shorter than five characters should be appended by such number of the letter 'X' as will ensure that the element referring to the first name or surname contains five characters.

f. All characters in the code shall be written in upper case format.

g. All codes shall have exactly twenty characters.

Article 7

Common format

1. An OAM shall use an XML-based format for exchanging metadata with the EEAP.

2. An OAM shall enable access to metadata on regulated information in the format prescribed in Article 1 of Section A of the Annex to this Regulation.

Article 8

Common list and classification of regulated information

1. The common list of types of regulated information shall comprise the information set out in Article 1 of Section B of the Annex to this regulation.

2. An OAM shall classify regulated information in accordance with Article 2 of Section B of the Annex to this Regulation.

Chapter IV

FINAL PROVISIONS

Article 9

Entry into force

1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

2. This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, [].

[For the Commission

The President]

[For the Commission

On behalf of the President]

[Position]

ANNEX

Section A - Information Exchange

1. In accordance with Article 7 (2), an OAM shall enable the following metadata on regulated information in the following format:

Data type	**Data field characteristics**
Issuer name (in all languages used by the issuer)	Free text alpha-numeric field, UTF-8 encoding
Issuer's Home Member State	2-digit country code, ISO 3166-1
Unique identifier	Unique identifier format
Type of regulated information	Taxonomy in accordance with the common list of regulated information as prescribed by Article 1 of Section B of this Regulation
URL	Alpha-numeric field. The hyperlink shall enable the access to documents containing regulated information in accordance with Article 5 (3)

Section B - Common list and classification of regulated information

1. The common list of regulated information referred to in Article 8 (1), shall include the following information in relation to an issuer:

   a) information on choice of home Member State, pursuant Article 2 (1) (i) (iii) of Directive 2004/109/EC,

   b) information on annual financial report, pursuant Articles 4 of Directive 2004/109/EC,

   c) information on half yearly financial report, pursuant Article 5 of Directive 2004/109/EC,

   d) information on payments to governments, pursuant Article 6 of Directive 2004/109/EC,

   e) information on major holdings, pursuant Article 12 (6) of Directive 2004/109/EC

   f) information on acquisition or disposal of own shares, pursuant Article 14 of Directive 2004/109/EC,

   g) information on total number of voting rights and capital, pursuant Article 15 of Directive 2004/109/EC,

   h) additional information regarding rights attached to the various classes of shares or derivative securities issued by the issuer itself and giving access to the shares change in the rights attached to the various classes of shares, including changes in the rights attached to derivative securities issued by the issuer itself and giving access to the shares of that issuer, pursuant Article 16 of Directive 2004/109/EC,

   i) price sensitive information, pursuant Article 2(1)(k) of Directive 2004/109/EC, and

j) information provided under the laws, regulations and administrative provisions of a Member State adopted pursuant Article 3(1) of Directive 2004/109/EC.

2. When classifying regulated information of an issuer pursuant to Article 8 (2), an OAM shall use the following common classification:

1. <u>Periodic regulated information/financial reports</u>

a) Annual financial reports

b) Half yearly financial reports

c) Payments to governments;

2. <u>On-going regulated information</u>

d) Home Member State;

e) Price sensitive information;

f) Major shareholdings notifications;

g) Trading on own shares;

h) Total number of voting rights and capital;

i) Changes in the rights attaching to the classes of shares or securities

3. <u>Additional regulated information adopted by Member State</u>

j) Regulated information adopted by Member State.