



Mapping towards and normalisation in APEnet EAD

– Best Practice Guide –

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¹ OJ L 79, 24.3.2005, p. 1.

Introduction

The archives domain has long understood and appreciated the value of standardisation: the first International Standard Archival Description, ISAD(G)², was born in 1994, and has since been adopted by many archival institutions. The EAD format (Encoded Archival Description)³, which followed in 1998, has been equally successful as one of the main formats for international cooperation and joint access points. Nevertheless the flexibility that allows EAD to fit to each national or local archival institution's needs and practises has also been a basis for heterogeneity within the boundaries of the standard.

For the APENet project to build the Archives Portal Europe a first step therefore has been to decide, how EAD shall be used to create a common and stable basis for

- validating EAD documents,
- indexing the data to be used in an overall search,
- creating HTML presentations of archival material in the Archives Portal Europe, and
- preparing data for its exchange with other (inter)national portals like Europeana.

The decisions taken so far,

- refer to cases, where more than one element could be used for the same intellectual information within the framework of EAD;
- include the definition of mandatory elements, attributes or default attributes' values, where these are used for central data management or data processing purposes respectively will provide more options for search functionalities;
- are based on a thorough comparison of the ways, in which EAD is used already by the project partners;
- followed the main principle of creating a commonly used APENet EAD profile as a working tool, so, the decisions sometimes include compromises for best technical implementation possibilities above intellectually correct archival usage.

Different elements for a similar purpose

The following paragraphs state the pairs of elements or elements' groups that could be used in one way or another within EAD in general, show the option chosen within APENet EAD and include a proposal on how to map local data to APENet EAD, in case there should be differences in the use of these elements. This list does not claim to be complete and might as well be extended during the lifetime of the APENet project, when more and new materials are provided by the participating institutions

<abstract> or <scopecontent>

To provide a description of the scope and content of an archival unit either <scopecontent> with subelements like <p>, <list> or <table> or <abstract> can be used. While <abstract> in general is meant to mainly give a rather short summary, the information given in <scopecontent> can be more elaboratd.

Within the APENet project, it has been decided to only used <scopecontent> with its subelements for structuring or formatting texts. It is used with the attribute ENCODINGANALOG (default value: "summary") on all levels of description and includes the subelements <head>, <p>, <list>, <table> and <dao>.

² English version can be found at http://www.apenet.eu/images/docs/isad_g_2_en.pdf.

³ See the general EAD Tag Library in English at <http://www.loc.gov/ead/tglib/index.html>.

When local systems use <abstract> instead of <scopecontent>, it is recommended to do the following mapping in preparation for converting local data to APENet EAD:

Local data	Converted to APENet EAD
<pre><archdesc> <did> <abstract> [Text] </abstract> </did> </archdesc> resp. <c> <did> <abstract> [Text] </abstract> </did> </c></pre>	<pre><archdesc> <scopecontent encodinganalog="summary"> <p> [Text] </p> </scopecontent> </archdesc> resp. <c> <scopecontent encodinganalog="summary"> <p> [Text] </p> </scopecontent> </c></pre>

Formatting elements like f.i. <lb> for linebreaks or <emph> for markups are used identically in <abstract> and <p>. When <abstract> is used repeatedly, this should be transferred to the according number of <p> elements. When <abstract> itself does include information, that should be used as a header in the online presentation of the EAD document, a mapping could be done as follows:

Local data	Converted to APENet EAD
<pre><abstract> <emph render="bold"> [Header] </emph> <lb/> [Text] </abstract></pre>	<pre><scopecontent encodinganalog="summary"> <head> [Header] </head> <p> [Text] </p> </scopecontent></pre>

<language> and <langmaterial> with or without subelement <language>

The elements <language> and <langmaterial> to provide information on the language used within the EAD document itself respectively within the archival material described can be used as mixed content, ie they can contain text by themselves plus they can include the repeatable subelement <language>.

Since language information is one crucial aspect within a multi-national and therefore multi-lingual environment as the Archives Portal Europe, it has been decided to use <language> and <langmaterial> including the subelement <language>. This additionally provides the option to give encoded language information compliant to the ISO standards 639-2b⁴ and 15924⁵, which can be technically read and used. Nevertheless, using <language> with the attributes LANGCODE and SCRIPTCODE is – for now – not mandatory within APENet EAD, but would be highly recommended.

⁴ See code list at http://www.loc.gov/standards/iso639-2/php/code_list.php.

⁵ See code list at <http://www.unicode.org/iso15924/iso15924-codes.html>.

When local systems use <language> and/or <langmaterial> as text-only, it would be appreciated to prepare the following mapping for conversion to APENet EAD:

Local data	Converted to APENet EAD
<p>Examples:</p> <pre><language> This EAD document is written in English. </language></pre> <p>resp.</p> <pre><langmaterial> The described archival unit includes material in English, French and German. </langmaterial></pre>	<p>Examples:</p> <pre><language> This EAD document is written in <language langcode="eng" scriptcode="Latn" encodinganalog="041">English </language>. </language></pre> <p>resp.</p> <pre><langmaterial encodinganalog="3.4.3"> The described archival unit includes material in <language langcode="eng" scriptcode="Latn"> English</language>, <language langcode="fre" scriptcode="Latn"> French</language> and <language langcode="ger" scriptcode="Latn"> German</language>. </langmaterial></pre>

<dao> as subelement of <did> or <daogrp>

For integrating digital archival objects, EAD provides the repeatable element <dao>, which can be used either as subelement of <did> or directly as subelement of <archdesc> respectively <c>, or alternatively the element <daogrp> with its possible subelements <daodesc>, <daoloc>, <resources> and <arc>.

Within APENet EAD it has been decided to use repeated <dao> elements within <did>, so, depending on the use in local data, the following mapping possibilities are recommended.

Note: The examples below are concentrating on the elements providing the actual link to the digitised material plus a possibly used label for this link. Additional subelements for <daogrp> in the local data, such as <daodesc>, <resource> and <arc> are currently not taken into account when converting to APENet EAD.

Local data	Converted to APENet EAD
<p>Examples:</p> <pre><archdesc> <dao/> </archdesc></pre> <p>resp.</p> <pre><c> <dao/> </c></pre> <p>resp.</p>	<p>Examples:</p> <pre><archdesc> <did> <dao/> </did> </archdesc></pre> <p>resp.</p> <pre><c> <did> <dao/> </did> </c></pre> <p>resp.</p>

<pre><archdesc> or <c> <daogrp> <daoloc entityref="[X]" label="[X]"> <daoloc entityref="[X]" label="[X]"> </daogrp> </archdesc> or </c> resp. <archdesc> or <c> <daogrp> <daoloc href="[X]" title="[X]"> <daoloc href="[X]" title="[X]"> </daogrp> </archdesc> or </c></pre>	<pre><archdesc> or <c> <did> <dao xlink:href="[X]" xlink:title="[X]"> <dao xlink:href="[X]" xlink:title="[X]"> </did> </archdesc> or </c> resp. <archdesc> or <c> <did> <dao xlink:href="[X]" xlink:title="[X]"> <dao xlink:href="[X]" xlink:title="[X]"> </did> </archdesc> or </c></pre>
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<note> as subelement of <did>

Same as the element <dao>, the element <note> for additional information and remarks can be used either as subelement of <did> or directly as subelement of <archdesc> respectively <c>. Depending on the use in local data, the following mapping is recommended:

Local data	Converted to APENet EAD
<pre><archdesc> <note/> </archdesc> resp. <c> <note/> </c></pre>	<pre><archdesc> <did> <note/> </did> </archdesc> resp. <c> <did> <note/> </did> </c></pre>

<origination> with or without subelement(s)

The element <origination> can – among others – be used with the subelements <corpname>, <famname>, <persname> or <name> to specify the type of records' creator. In APENet EAD the four mentioned subelements are available, plus an additional specification with the attribute LABEL and its possible values

- "pre" for "Former provenance" as previous owner or original creator of the described materials;
- "final" for "Final provenance" as immediate source of archival acquisition;
- "unit of organisation" in case an organisational unit of an administrative body should be named as originator of the described materials.

The above said anyhow just states the possibilities within APENet EAD; neither the subelements nor the attribute LABEL are mandatory. Nevertheless, it would be recommended to use at least the possible subelements, because this could provide more options f.i. in combination with searching for records' creators, persons or corporations in the future development of the Archives Portal Europe.

So, when in local data only <origination> is used, but it could be specified, if it contains the name of a corporation, of a family or of a person, it would be recommended to map as follows:

Local data	Converted to APENet EAD
<pre><origination> [Name of a corporation] </origination></pre>	<pre><origination> <corpname> [Name of a corporation] </corpname> </origination></pre>
<p>resp.</p> <pre><origination> [Name of a family] </origination></pre>	<p>resp.</p> <pre><origination> <famname> [Name of a family] </famname> </origination></pre>
<p>resp.</p> <pre><origination> [Name of a person] </origination></pre>	<p>resp.</p> <pre><origination> <persname> [Name of a person] </persname> </origination></pre>

Elements for key words or index entries

Within EAD there are two elements, that can possibly be used to provide key terms, index entries etc related to the described archival material: <controlaccess> and <index><indexentry>. Both come with the same range of subelements (<corpname>, <famname>, <function>, <genreform>, <geogname>, <name>, <occupation>, <persname>, <subject>, <title>), while <controlaccess> additionally includes – among others – the text and formatting elements <head> and <p>.

This last mentioned difference led to the decision to only use <controlaccess> within APENet EAD. Should <index><indexentry> be used in local data, therefore the following mapping would be needed:

Local data	Converted to APENet EAD
<p>Example:</p> <pre><index> <indexentry> <corpname/> </indexentry> <indexentry> <famname/> </indexentry> <indexentry> <function/> </indexentry> <indexentry> <genreform/> </indexentry> <indexentry> <geogname/> </indexentry> <indexentry> <name/> </indexentry> <indexentry> <occupation/></pre>	<p>Example:</p> <pre><controlaccess> <corpname/> <famname/> <function/> <genreform/> <geogname/> <name/> <occupation/> <persname/> <subject/> <title/> </controlaccess></pre>

<pre> </indexentry> <indexentry> <persname/> </indexentry> <indexentry> <subject/> </indexentry> <indexentry> <title/> </indexentry> </index> </pre>	
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Elements to link to external resources

EAD offers – depending on the context in which they are used – three different elements to provide links to external online resources including a possibility to give a label for these links: <archref> for references to archival resources, <bibref> for bibliographic resources, <extref> for any other kind of external reference.

Since they are – from a technical point of view – not used differently, it has been decided to only use <extref> as subelement of <p> within APEnet EAD. The only exception would be <bibref> as subelement of <bibliography>, in which context it allows to provide bibliographic data on the author, the title or the date of publication in separate elements.

When using either <archref> or <bibref> with any other of the elements listed below, it is recommended to provide the following mapping rule:

Local data	Converted to APEnet EAD
<archref> or <bibref> as subelement of <otherfindaid>, <relatedmaterial>, or <separatedmaterial> <otherfindaid> <archref/> or <bibref/> </otherfindaid> resp. <relatedmaterial> <archref/> or <bibref/> </relatedmaterial> resp. <separatedmaterial> <archref/> or <bibref/> </separatedmaterial>	<archref> or <bibref> as subelement of <otherfindaid>, <relatedmaterial>, or <separatedmaterial> <otherfindaid> <p> <extref/> </p> </otherfindaid> resp. <relatedmaterial> <p> <extref/> </p> </relatedmaterial> resp. <separatedmaterial> <p> <extref/> </p> </separatedmaterial>
resp. <archref> or <bibref> as subelement of <p> <p> <archref/> or <bibref/> </p>	resp. <archref> or <bibref> as subelement of <p> <p> <extref/> </p>

To provide a link from the Archives Portal Europe to the description of a specific archival unit within the own local systems, the element <extptr> as subelement of <unitid type="call number">, the latter

containing the reference code of the archival unit, is recommended to be used. The link would then be given in the attribute XLINK:HREF.

The element <descgrp>

Within APEnet EAD it has been decided to not use the element <descgrp> as subelement of <archdesc> or <c>, but to use the possible subelements

- accessrestrict,
- accruals,
- acqinfo,
- altformavail,
- appraisal,
- arrangement,
- bibliography,
- bioghist,
- controlaccess,
- custodhist,
- fileplan,
- odd,
- originalsloc,
- otherfindaid,
- phystech,
- prefercite,
- processinfo,
- relatedmaterial,
- scopecontent,
- separatedmaterial,
- userrestrict

as direct subelements of <archdesc> respectively <c> directly. This leads to the following recommendation when converting local data to APEnet EAD:

Local data	Converted to APEnet EAD
<pre><archdesc> or <c> <descgrp> <accessrestrict/> <accruals/> <acqinfo/> [etc] </descgrp> </archdesc> or </c></pre>	<pre><archdesc> or <c> <accessrestrict/> <accruals/> <acqinfo/> [etc] </archdesc> or </c></pre>

The element <accessrestrict><legalstatus>

Within APEnet EAD it has been decided to not use the specific element <legalstatus> for the statutorily-defined status of the materials, but to only use the element <p> for this kind of information. Should <legalstatus> be used in local data, the following mapping would be recommended:

Local data	Converted to APEnet EAD
<pre><accessrestict> <legalstatus type="[Type]"> [Text] </legalstatus> </accessresctrict></pre>	<pre><accessrestict> <p>[Type]: [Text]</p> </accessresctrict></pre>

<arrangement> as subelement of <scopecontent>

Within APEnet EAD it has been decided to not use <arrangement> as subelement of <scopecontent>, but only as direct subelement of <archdesc>. Depending on the context, in which <arrangement> is used in local data, mapping would be possible as follows:

Local data	Converted to APEnet EAD
<p><arrangement> as intellectually independent part of <scopecontent></p> <pre><scopecontent> <head/> <p/> <arrangement> <head>[Header]</head> <p>[Text]</p> </arrangement> </scopecontent></pre> <p>resp.</p> <p><arrangement> as intellectually included part of <scopecontent></p> <pre><scopecontent> <head/> <p/> <arrangement> <head>[Header]</head> <p>[Text]</p> </arrangement> <p/> <p/> </scopecontent></pre>	<p><arrangement> as intellectually independent part of <scopecontent></p> <pre><scopecontent> <head/> <p/> </scopecontent> <arrangement> <head>[Header]</head> <p>[Text]</p> </arrangement></pre> <p>resp.</p> <p><arrangement> as intellectually included part of <scopecontent></p> <pre><scopecontent> <head/> <p/> <p><emph render="bold">[Header] <lb/>[Text] </p> <p/> <p/> </scopecontent></pre>

<acqinfo> as subelement of <custodhist>

As for <arrangement> as subelement of <scopecontent>, it has been decided to not use <acqinfo> as subelement of <custodhist> within APENet EAD, but only as direct subelement of <archdesc>. Depending on the context, in which <acqinfo> is used in local data, mapping would be possible as follows:

Local data	Converted to APENet EAD
<p><acqinfo> as intellectually independent part of <custodhist></p> <pre><custodhist> <head/> <p/> <acqinfo> <head>[Header]</head> <p>[Text]</p> </acqinfo> </custodhist></pre> <p>resp.</p>	<p><custodhist> as intellectually independent part of <acqinfo></p> <pre><custodhist> <head/> <p/> </custodhist> <acqinfo> <head>[Header]</head> <p>[Text]</p> </acqinfo></pre> <p>resp.</p>
<p><acqinfo> as intellectually included part of <custodhist></p> <pre><custodhist> <head/> <p/> <acqinfo> <head>[Header]</head> <p>[Text]</p> </acqinfo> <p/> <p/> </custodhist></pre>	<p><acinfo> as intellectually included part of <custodhist></p> <pre><custodhist> <head/> <p/> <p><emph render="bold">[Header] <lb/>[Text] </p> <p/> <p/> </custodhist></pre>

The possible levels of description and the enumeration of <c> elements

Concerning the <c> elements available in EAD to provide descriptions of the constituent archival units within one EAD document, there have been two decisions within the APENet project. The first refers to the possible enumeration from <c01> up to <c12>, that is not used within APENet EAD to allow an even deeper hierarchical structure, if wanted. The second concerns the possible values for the accompanying attribute LEVEL.

While EAD in general allows the values "collection", "fonds", "class", "recordgrp", "series", "subfonds", "subgrp", "subseries", "file", "item", and "otherlevel" – the latter opening a whole range of additional specifications –, in APENet EAD only the following five values are used "fonds", "series", "subseries", "file", and "item".

Depending on the kind of EAD document, the highest level <c> element can have the level "fonds" – when a finding aid combines the description of several fonds or collections, the level "series" – as the probably most common case of finding aids describing one fonds or collection with its classification,

the level "subseries", "file", or "item" – used f.i. with relatively small fonds, where no classification is needed to structure the materials.

The <c> elements can be arbitrarily nested within each other, the <c> elements with the levels "fonds", "series", and "subseries" can as well be nested within themselves. The lowest level always represents a single descriptive unit, i.e. a file, an image, a map, a charter etc.

Nesting possibilities are:

- <c@fonds> can contain <c@fonds>, <c@series>, <c@subseries>, <c@file>, <c@item>;
- <c@series> can contain <c@series>, <c@subseries>, <c@file>, <c@item>;
- <c@subseries> can contain <c@subseries>, <c@file>, <c@item>;
- <c@file> can contain <c@item>.

Since <c> elements with the same value for the attribute LEVEL might be used with slightly different purposes in a local environment compared to their use within APENet EAD, it is recommended to address with the APENet project team for this aspect in order to ensure the correct adaption of the original hierarchy in APENet EAD⁶.

Defining mandatory elements

Besides the elements, that already are defined as mandatory in EAD in general, APENet EAD includes some additional definitions, needed mainly with regard to central data management and data processing. When using the tool provided by the APENet project team for the conversion of local data to APENet EAD⁷, the user will be asked to provide the needed information and it is automatically added during conversion. This means, that this information does not need to be already in the local data, but will only be asked for when preparing the data for the use in the Archives Portal Europe. The elements and attributes concerned are at the moment:

- <eadid>

The element itself is already mandatory in EAD and is used to provide a locally unique identifier for the EAD document. In APENet EAD it is additionally required to have content, which will be used to create a global identifier for the EAD document (see below).
- MAINAGENCYCODE

The attribute is used with <eadid> and contains an identifier for the institution maintaining the archival material described within an EAD document. This identifier should be given in a format compliant with ISO standard 15511⁸ (ie starting with a two-letter country code following ISO standard 3166-1⁹) and ideally is a registered ISIL code. This code can be entered and changed in the preferences of the conversion tool.
- COUNTRYCODE

The attribute is used with <eadid> and contains a two-letter code for the country (compliant with ISO standard 3166-1), where the institution maintaining the described archival material is located. This code can be entered and changed in the preferences of the conversion tool.
- IDENTIFIER

The attribute is used with <eadid> in APENet EAD and provides a global identifier for the EAD document, which combines the identifier for the institution as given in MAINAGENCYCODE (see above) with the locally used identifier of the EAD document as provided with the element <eadid> (see above). The value of IDENTIFIER is automatically created and added by the conversion tool.

⁶ Please use the contact form at the project's website www.apenet.eu.

⁷ Download including a manual is available at the project's website www.apenet.eu, section "About APENet > Technical Developments".

⁸ See f.i. http://en.wikipedia.org/wiki/International_Standard_Identifier_for_Libraries_and_Related_Organizations for more information.

⁹ See f.i. http://en.wikipedia.org/wiki/ISO_3166-1_alpha-2 for more information.

The use of certain attributes' values

APENet EAD includes some elements, that can be used repeatedly and with different values for the accompanying attribute, giving the content of the element a different meaning. Should these elements already be used with different values for the same attributes in local data, it would be recommended to change to the values used in APENet EAD during conversion¹⁰. Should the locally used values be kept, please contact the APENet project team for details. The elements and attributes concerned are at the moment:

- attributes COUNTRYENCODING, DATEENCODING, LANGENCODING, REPOSITORYENCODING, SCRIPTENCODING with <eadheader>
The named attributes use the ISO standards, that are recommended by EAD in general, as default values, ie (in the order as above) "iso3166-1", "iso8601", "iso639-2b", "iso15511", "iso15924". These values are automatically added, when using the conversion tool provided by the APENet project team.
- attribute RELATEDENCODING with <eadheader>
The attribute names MARC21 as related encoding system for the bibliographic data contained in the subelements of <eadheader>¹¹. This value as well as the analogical encodings in MARC21 for subelements of <eadheader> are automatically added, when using the conversion tool provided by the APENet project team.
- attribute RELATEDENCODING with <archdesc>
The attribute names ISAD(G)v2 as related encoding system for the descriptive archival data contained in the subelements of <archdesc>¹². This value as well as the analogical encodings in ISAD(G) for subelements of <archdesc> are automatically added, when using the conversion tool provided by the APENet project team.
- <archdesc><scopecontent>
The element is used with the attribute ENCODINGANALOG, which in general has the value "summary", but can on the highest description level as well have the value "preface".
- attributes CALENDAR and ERA with <date> resp. <unitdate>
The named attributes are used with the standard values "gregorian" resp. "ce" as recommended by EAD in general. The attributes are automatically added, when using the conversion tool provided by the APENet project team, should they not already be contained in the local data.
- attribute LEVEL with <archdesc> resp. <c>
With <archdesc>, the attribute LEVEL is used with the default value "fonds". For the use of the attribute LEVEL with <c> please see chapter "The possible levels of description and the enumeration of <c> elements" above.
- attribute TYPE with <archdesc>
In order to distinguish between the two main types of EAD documents used in the Archives Portal Europe, ie finding aids and holdings guides, the attribute TYPE with <archdesc> is recommended to be used with either "inventory" (for finding aids) or "holdings_guide" (for holdings guides).
- attribute LABEL with <origination>
The use of the attribute LABEL with <origination> is available, but not mandatory. For possible values please see chapter "<origination> with or without subelement(s)" above.

¹⁰ For more information on the different meanings depending on the value of an attribute, please refer to the "APENet EAD Guide" as available at the project's website www.apenet.eu, section "About APENet > Standards".

¹¹ A crosswalk between MARC21 and EAD can be found in Annex C of the "APENet EAD Guide" available at www.apenet.eu, section "About APENet > Standards".

¹² A crosswalk between ISAD(G) and EAD can be found in Annex C of the "APENet EAD Guide" available at www.apenet.eu, section "About APENet > Standards".

- `<c><did><unitid>`
The element is used with the attribute TYPE, which in general has the value "call number", but can on the lower description levels as well have the values "former call number" or "file reference".

Normalised data compliant to the ISO standards

In order to be able to include all dates as included in the provided EAD documents in searches by date or in "sorting-by-date"-functionalities, it is recommended to additionally provide normalised dates. These should be compliant with the ISO standard 8601¹³, so f.i. "YYYY", "YYYY-MM", "YYYY-MM-DD" for a single year, a single month or a specific day resp. "YYYY/YYYY", "YYYY-MM/YYYY-MM", or "YYYY-MM-DD/YYYY-MM-DD" for time spans given in years, months or singular dates.

The conversion tool developed by the APENet project team does include an automatic addition of normalised dates, provided the human-readable dates are given in a format, that can be processed by default. F.i. "19.01.2011" would be transformed to "2011-01-19". Additionally, it is possible to edit these proposed normalised dates within the tool after the conversion.

Standalone conversion – How to deal with possible warnings

Since APENet EAD does not include all elements or attributes that are generally available in EAD, using the conversion tool as provided by the APENet project team might lead to the message, that certain elements are excluded from conversion. If this should be the case, it is recommended to contact the APENet project team in order to see the possibilities of f.i. mapping the skipped elements to a compliant one existing in APENet EAD¹⁴.

Exchanging data with Europeana

With regard to a possible additional delivery of data to Europeana via the Archives Portal Europe, there are three main aspects to be mentioned. All of them refer to providing links to digital archival objects resp. to their description within the own systems of the content providers.

For links to digital archival objects, the element `<dao>` is used (as described above), and could provide links to two different resolutions of the same digital archival object, one of which should be a thumbnail. In order to distinguish between the thumbnail and a higher resolution version of the same digital archival object, it is recommended to use the attribute XLINK:TITLE with the value "thumbnail" for the first. For the higher resolution version of the digital archival object, any value can be used with XLINK:TITLE.

Should additionally a link to the description of this digital archival object within the systems of the content provider be given, it is recommended to use the element `<extptr>` as subelement of `<unitid type="call number">`. In this case, the link itself would be given with XLINK:HREF, whereas no XLINK:TITLE would be needed.

¹³ For more information see f.i. http://en.wikipedia.org/wiki/ISO_8601.

¹⁴ Please use the contact form at the project's website www.apenet.eu.