Project

Project Acronym:	AthenaPlus
Grant Agreement number:	325098
Project Title:	Access to cultural heritage networks for Europeana

Deliverable

Deliverable name:	Semantic metadata enrichment process
Deliverable number:	D4.7
Delivery date:	November 2015
Dissemination level:	Public
Status	Final
Authors (organisation)	Nikos Simou (NTUA), Christophe Roche (UniSav), Luc Damas (UnivSav)
Contributors (organisation)	
Reviewers (organisation)	

Revision History

Revision	Date	Author	Organisation	Description
V0.1	2015-10-01	N. Simou	NTUA	1st draft
V0.2	2015-11-17	L. Damas	UniSav	Updating
V0.3	2015-11-30	C. Roche	UnivSav	Final version
V1.0	2015-12-06	C. Roche	UnivSav	Final version

CONTENTS

1. EXECUTIVE SUMMARY

This document describes the activity done in the framework of the Work Package 4 on terminologies and semantic enrichment. It is a report on the works done using the 2 platforms, TP2 and MINT, carried out during the AthenaPlus project. It includes a report on the number of published and connected terminologies as part of the Linked Open Data web as well as some recommendations on how to improve terminology management.

2. INTRODUCTION

Two platforms were carried out during the AthenaPlus project. The TMP2 platform, for Terminology Management Platform version 2, was implemented by the University of Savoie. The TMP2 is a software environment for editing and managing thesauri including importing, exporting and mapping thesauri. The MINT ingestion platform is the tool developed by NTUA for managing the metadata production and delivery to Europeana within AthenaPlus.

The first part (paragraph 3) of this deliverable is dedicated to the TMP2 platform. It starts with a brief introduction of the TMP2 functionalities, followed by statistics about the terminologies managed by the TMP2.

The second part (paragraph 4) is devoted to the integration of TMP in MINT. It includes an overview of MINT, a presentation of MINT and Linked Open Data, and enriching metatada using terminologies from TMP2.

2.1 BACKGROUND

The D4.3 deliverable describes the theoretical requirements based on an ontology-oriented approach when the D4.5 deliverable presents the functionalities of the production version of the TMP2.

2.2 ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable closes the technical parts devoted to the platforms carried out during the project. It presents the usage statistics of the tools.

3. TERMINOLOGIES IN THE TMP

3.1 INTRODUCTION TO THE TMP2

The TMP2 is an ontology-oriented environment for editing and managing terminologies and thesauri including exporting, importing and mapping functionalities. The D4.5 deliverable "Second Release of the Terminology Management Platform" presents in details the TMP2 functionalities. It can be consulted on

the AthenaPlus website [1]. A manual for the TMP is updated regularly and can be found on the TMP website. The TMP2 is accessible on: http://athenaplus.thesaurus.condillac.org
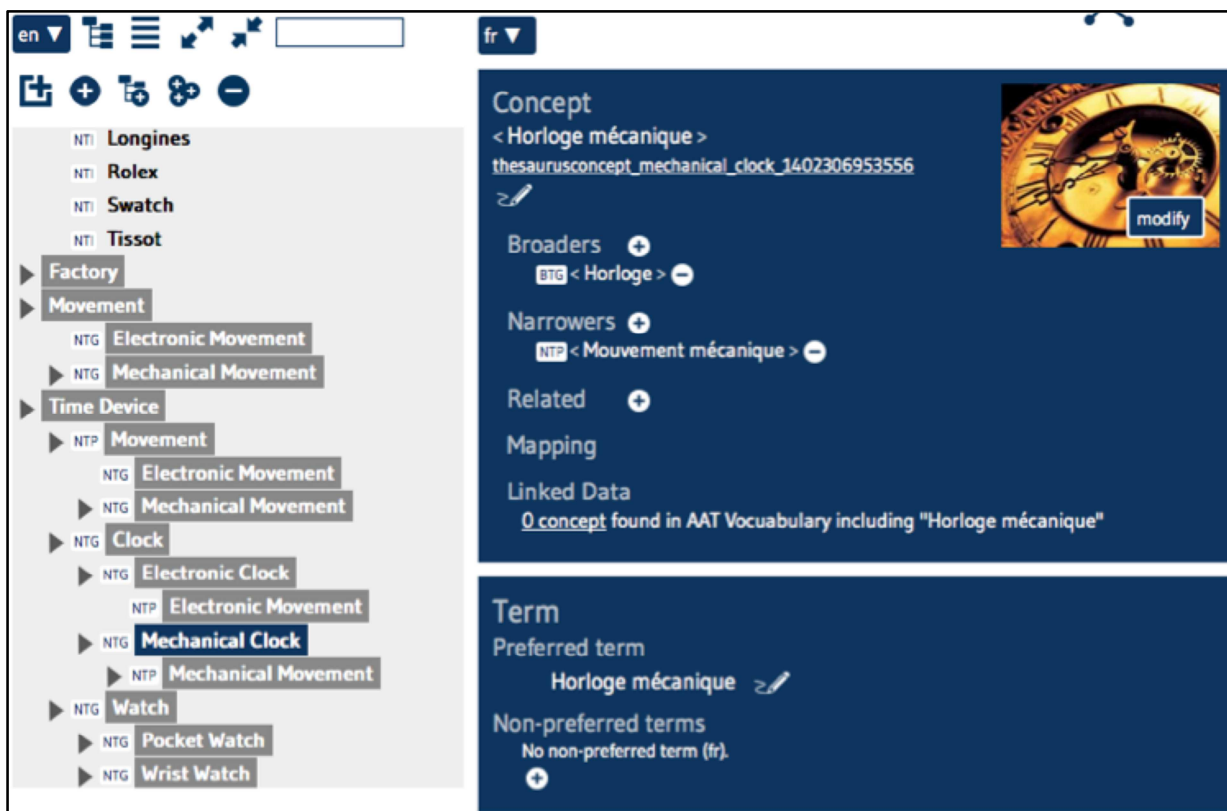

Figure 1: *Printscreen of the TMP editing page*

3.2 NUMBER OF TERMINOLOGIES IN THE TMP

The TMP2 registry contains 109 terminologies. The terminologies were:

- Uploaded by the user as SKOS-files ;
- Uploaded by the administrator as CSV-files ;
- Created the first time in the TMP, using the editing functionalities.

The terminologies in the TMP are either reference terminologies or were created as for testing the TMP. The reference terminologies are set as public, the others are set as private. It is the owner (or creator) of the terminology that decides to publish or not the created or uploaded terminologies.

---

[1] Second release of the Terminology Management Platform, April 2015:
file:///C:/Users/e.coudyzer/Downloads/Athena_Plus_D4.5_Second_Release_of_the_Terminology_Management_Platform.pdf

Type of terminology	Number of terminologies
Reference terminologies	30
Test terminologies	79
Total	**109**

Figure 2: *Number of reference terminologies and test-terminologies in the TMP*

3.3 NUMBER OF CONCEPTS IN THE TMP

The table below summarizes statistics about concepts and terms.

A concept is a unit of knowledge, language-independent and linked to others through semantic relations: generic, partitive, instance and related (ISO 25964 compliant).

A term is the way a concept is named in a given language, under preferred or alternative forms.

Total number of concepts	60796
Number of concepts (largest thesaurus)	5802
Average number of concepts per thesaurus (preferred terms)	562
Total number of terms (preferred, non-preferred and in different languages)	128860
Average number of terms per concept	2.1
Average number of terms per thesaurus	1195
Number of intern semantic relations (broader, narrower and related terms)	111989
Number of notes (scope notes)	973

Figure 3: *Statistics of concepts and terms, relations and notes*

3.3.3 LANGUAGES

The TMP is a webservice that stimulates and supports multilingualism. The table below shows the ISO-language codes with the number of concepts and the percentage of the language in the TMP.

In November 2015, English is by far the most used language for concepts in the TMP (41,8%) and followed by German (20,2 %), followed by Dutch (5,6%) and French (5%).

ISO-code (in TMP)	Language	Number of concepts	Percentage
bg	Bulgarian	590	0.5
ca	Catalonian	2705	2.1
cs	Czech	1513	1.2
da	Danish	561	0.5
de	German	25951	20.2
el	Greek (Latin alphabet)	49	0.1
en	English	53812	41.8
es	Spanish	3108	2.5
et	Estonian	49	0.1
fi	Finnish	2037	1.6
fr	French	6359	5
ga	Irish	36	0.1
gd	Scottish Gaelic	1405	1.1
grk	Greek (Greek alphabet)	7	0.1
he	Hebrew	1855	1.5
hr	Croatian	2358	1.9
hu	Hungarian	1313	1.1
it	Italian	5162	4.3
la	Latin	119	0.1
lt	Lithuanian	564	0.5
lv	Latvian	43	0.1
nl	Dutch	7214	5.6
no	Norwegian	2243	1.8
pl	Polish	2110	1.7
pt	Portuguese	2367	1.9
ro	Romanian	101	0.1
ru	Russian	47	0.1
sl	Slovenian	1690	1.4
sv	Swedish	3466	2.7

Figure 4: *The languages in the TMP*

3.5 PUBLISHED TERMINOLOGIES

There are a number of terminologies published on other online publication platforms, but they are used as mapping targets only.

The thesauri loaded in the TMP that are published online on another platform are :

- Partage Pus Vocabulary
- PICO Thesaurus
- English Heritage Thesaurus

The URI of the published terminologies can be added to the TMP-URI in the metadata box on the editing page. The URI of the concepts is then a combination of the TMP-URI + the original URI. Clicking the new URI links you to the published terminology on the other platform.

3.6 MAPPED TERMINOLOGIES

A set of thesauri were manually mapped in the TMP. There are 42 thesauri with 3158 links to others thesauri :

- http://athenaplus.thesaurus.condillac.org/thesaurus_thesaurus_pico_43_1411586031665
- http://athenaplus.thesaurus.condillac.org/thesaurus_BritishMuseumObjectNames_1445334767696
- http://athenaplus.thesaurus.condillac.org/thesaurus_museums_1412077855250
- http://athenaplus.thesaurus.condillac.org/thesaurus_my_test_1402467464224
- http://athenaplus.thesaurus.condillac.org/thesaurus_my_test_2_1411559300382
- http://athenaplus.thesaurus.condillac.org/thesaurus_music_1425970939551
- http://athenaplus.thesaurus.condillac.org/thesaurus_comics_1402345572684
- http://athenaplus.thesaurus.condillac.org/thesaurus_designation_1403084610951
- http://athenaplus.thesaurus.condillac.org/thesaurus_eajc_test_1425027831422
- http://athenaplus.thesaurus.condillac.org/thesaurus_historical_documents_1429679762663
- http://athenaplus.thesaurus.condillac.org/thesaurus_mtn_1425296012452
- http://athenaplus.thesaurus.condillac.org/thesaurus_ifmtest_1427456438253
- http://athenaplus.thesaurus.condillac.org/thesaurus_kleidung_1427458721208
- http://athenaplus.thesaurus.condillac.org/thesaurus_materials_thesaurus_1426503467841
- http://athenaplus.thesaurus.condillac.org/thesaurus_material_1429126387859
- http://athenaplus.thesaurus.condillac.org/thesaurus_object_1429127956738
- http://athenaplus.thesaurus.condillac.org/thesaurus_eb_test_1403073132319
- http://athenaplus.thesaurus.condillac.org/thesaurus_programming_1401894802186
- http://athenaplus.thesaurus.condillac.org/thesaurus_technique_1429132480962
- http://athenaplus.thesaurus.condillac.org/thesaurus_test_1426845321516
- http://athenaplus.thesaurus.condillac.org/thesaurus_testberlin_1427452440574
- http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusActivities_1445327224144
- http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusObjects_1445328006119
- http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusAgents_1445330061507
- http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusMaterials_1445330626707
- http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusStyles_1445330855671
- http://athenaplus.thesaurus.condillac.org/thesaurus_actorrole2map_1412357129044
- http://athenaplus.thesaurus.condillac.org/thesaurus_actorrole2map2_1424964177856
- http://athenaplus.thesaurus.condillac.org/thesaurus_bethlehem_architecture_1406211178698
- http://athenaplus.thesaurus.condillac.org/thesaurus_time_piece_1402300381610

- http://athenaplus.thesaurus.condillac.org/thesaurus_vocabolario_architettura_1412077890901
- http://athenaplus.thesaurus.condillac.org/thesaurus_andrese_test_1425025030245
- http://athenaplus.thesaurus.condillac.org/thesaurus_test_1425025010243
- http://athenaplus.thesaurus.condillac.org/thesaurus_teszt_pim_1426845723742
- http://athenaplus.thesaurus.condillac.org/thesaurus_TheIsraelMuseumObjectnames_1445335826572
- http://athenaplus.thesaurus.condillac.org/thesaurus_Libraries_1445424759936
- http://athenaplus.thesaurus.condillac.org/thesaurus_Soggetti_1445437219905
- http://athenaplus.thesaurus.condillac.org/thesaurus_T1446109778813_1446109778948
- http://athenaplus.thesaurus.condillac.org/thesaurus_StylesandPeriods_1446110382894
- http://athenaplus.thesaurus.condillac.org/thesaurus_Agents_1446110391124
- http://athenaplus.thesaurus.condillac.org/thesaurus_Materials_1446110401311
- http://athenaplus.thesaurus.condillac.org/thesaurus_Objects_1446110416918

4. INTEGRATION OF TMP IN MINT

4.1 OVERVIEW OF MINT WORK FLOW

MINT ingestion platform is the tool developed by NTUA for managing the metadata production and delivery to Europeana within AthenaPlus. In detail the main role of the MINT ingestion platform in the AthenaPlus project was to enable users to

- Provide metadata records in a range of "source" formats.
- Convert metadata to LIDO (that is used as an intermediate standard).
- Transform LIDO metadata to the latest version of EDM.
- Publish metadata to Europeana.
- Monitor the progresses of content provision.

While its key functionalities include:

- Organization and user level access rights and role assignment.
- Collection and record management (XML serialisation).
- Direct import and validation according to registered schemas (XSD).
- OAI-PMH based harvesting and publishing.
- Visual mapping editor for the XSLT language.
- Transformation and previewing (XML and HTML).
- Repository deployment and remediation interfaces.

The typical workflow employed through MINT in the AthenaPlus is shown in the figure below.

Figure 5: *Overall workflow*

A content provider performs an export of his metadata from his own content management system. Then this set of records – called dataset – is imported into MINT. After that using the user-friendly interface of MINT he performs a mapping – i.e. an alignment of the information held in his own content management system to the corresponding elements of LIDO that acts as the intermediate schema in the project. Once this is done he can check the validity of the mapping through a set of preview interfaces that give him inline schema validation and also a view of how his records would look like when published on Europeana. Once these checks are performed he transforms his metadata to LIDO creating a new dataset. After that, an additional transformation is performed by the MINT tool; the transformation of LIDO records to EDM. Again this process results into a new EDM dataset and once this is ready the content provider can sent his metadata to NTUA's OAI-PMH server. This action is called publication (Publish button) within the MINT environment, because is the last action a content provider should perform before seeing his metadata published on Europeana's portal. Typically after this action WP2 takes over by informing Europeana to harvest from NTUA's repository and once the metadata are thoughtfully examined, they appear on its portal. More details about the MINT tool can be found at D 3.1 and D 3.3

4.2 MINT AND LINKED OPEN DATA

During the last few years the Web has evolved from a global information space of linked documents to one where both documents and data are linked. This evolution has resulted in a set of best practices for publishing and connecting structured data on the Web known as Linked Data. In few words, Linked Data is simply about establishing typed relations between web data from a variety of sources like. These may be as diverse as databases maintained by two organizations in different geographical locations, or simply heterogeneous systems within one organization that, historically, have not easily interoperated at the data level. Technically, Linked Data refers to data published on the Web in such a way that it is machine-readable, its meaning is explicitly defined, it is linked to other external data sets, and can in turn be linked to from external data sets.

SKOS is an area of work developing specifications and standards to support the use of knowledge organization systems (KOS) such as thesauri, classification schemes, subject heading systems and taxonomies within the framework of the Semantic Web. MINT's functionality extended to support SKOS vocabularies by the development of an additional module. More specifically a semantic repository has been set up to which the SKOS vocabularies are stored. The communication of the MINT mapping tool with it is established by using SPAQRL 1.1 to retrieve the vocabularies' terms based on the SKOS specification. Additional semantic properties can be added – if necessary – to the vocabularies for controlling selectable and non-selectable terms through the mapping tool (skos:member, skos:Collection) and also for selecting to display only subcategories of them (skos:inScheme, skos:ConceptScheme).

There are two ways a content provider can use terminologies for the enrichment of his metadata through MINT. The first is to assign a term to the complete dataset. This is done by selecting a term from the SKOS navigation window that is shown in the figure below.
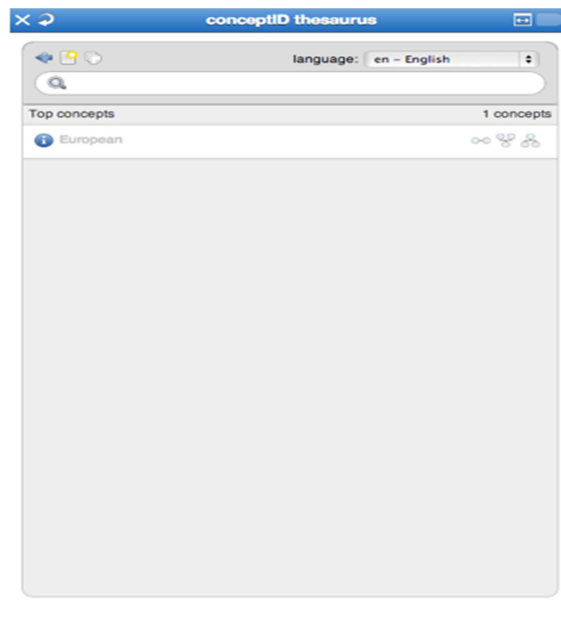
Figure 6: *Terminology navigation pane*

In this pane the top concepts of the terminology appear (in this case it is only one). On the top right the content provider can select the language he prefers from the drop down menu while on the left there buttons that allow different kinds of navigation such as the view of all concepts of the terminology (⬚), the top concepts (⬚) or to go back to his/her previous view (⬅). In addition the content provider can use the search pane on the top to search for a specific concept or to explore the terminology's hierarchy by selecting the related (∞), the broader (⬚) or the narrower (⬚) terms.
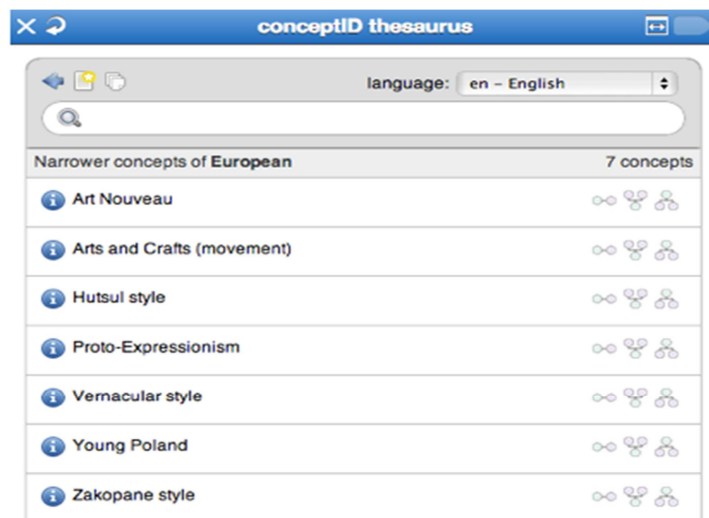
Figure 7: *Narrower concepts of Europeana*

The second way for using the terminologies through MINT is based on the value mapping. First an xpath mapping is performed by the provider using the xpath of his input schema that contains his in-house terminology. After that by clicking on the ⬭ icon a value mapping can be performed i.e. the

11

content provider is allowed to map his in house terminology values to the terminology's terms. After the value mapping link is added the alignment entered appears in the text area below. Alignments can removed by clicking on the ⊖ button on the right of it.
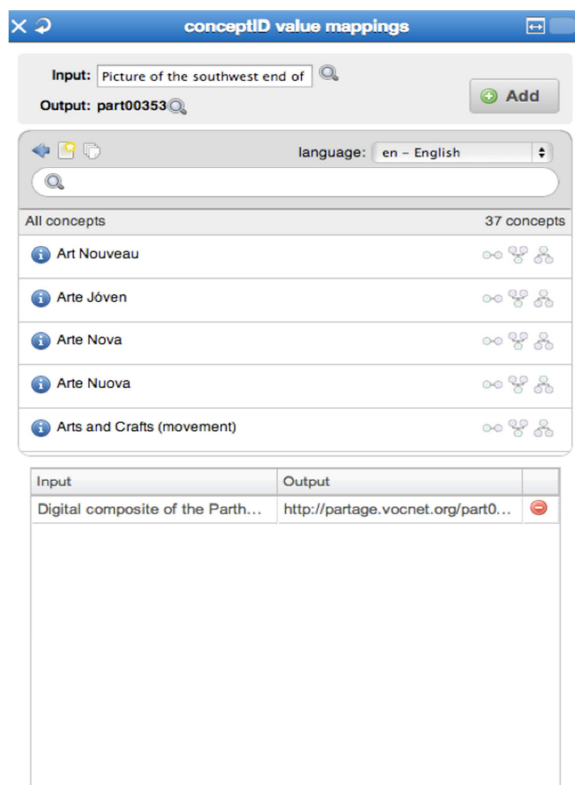

Figure 8: *Value mapping using a terminology*

4.3 ENRICHING METADATA USING TERMINOLOGIES FROM TMP

The main reason TMP integrated into MINT was for enriching providers' metadata using the vocabularies they have created though TMP. More specifically TMP is a tool that provides services and interfaces that content providers can use for creating vocabularies, either from scratch or by aligning their in-house terms to established vocabularies. Therefore the work flow employed for the content providers that wanted to use their own developed vocabulary into their metadata thought MINT includes the following steps:

1. **Export of in house vocabulary terms:** Content providers had to perform an export of their in-house vocabulary terms which they would use for the creation of a SKOS vocabulary through TMP.

2. **Creation of a SKOS vocabulary using TMP**: By using this export in TMP they could either align their terms to existing thesaurus terms, or in case this was not possible, to use them for building a hierarchical representation exploiting the SKOS broader-narrower properties. Apart from these additional SKOS properties like prefLabel and altLabel could be employed for the creation of a multilingual vocabulary. The outcome of this process was a SKOS vocabulary with all the terms being part of a skos:collection, named after the name the user created it, that was saved in a triplestore supporting SPARQL 1.1.

3. **Contact NTUA for enabling the use of the developed SKOS vocabulary within their mapping:** Once the SKOS vocabulary - or at least a first version of it - was saved in the triplestore the content provider had to contact NTUA for enabling the use of the SKOS vocabulary in his mapping. This couldn't be an automatic process since the vocabularies developed by each content provider had different domain, targeting to different lido elements (the way thesaurus mapping is implemented in MINT is by controlling a target schema element by a specific vocabulary). Therefore, once NTUA had this information (TMP user and lido element to which the vocabulary was targeted) an updated of the mapping was made for the corresponding MINT user, having this thesaurus customization (i.e. the customization code was updating the given mapping by the control of a given lido element with the given vocabulary). In addition a custom function was implemented that automatically matched the values of the input schema values to the prefLabel values of the vocabulary using string matching techniques. In most cases content providers didn't have to further modify anything since the terms found in the metadata were the terms used for the development of the vocabulary and therefore a match for them was automatically found. In cases however they wanted to further modify alignments this was possible by the editing them as shown in Figure 4.

5. CONCLUSION

Recommendations for building terminologies:

The TMP2 aims several goals. One of them is to define multilingual thesauri compliant to the latest ISO Standard on Thesaurus (ISO 25964). The quality of a terminology mainly relies on the coherency of its conceptual system. It is the reason why the TMP2, unlike the first version of the TMP, is based on an ontology-oriented and SKOS-independent architecture (SKOS is an interchange format, not a modelling language). The ontoterminology approach of the TMP2 – the TMP2 is implemented with the OTe engine – allowed to define some good principles for terminology and thesaurus building including a property checking:

-   Distinction between term and concept;
-   Priority given to the concept;
-   Distinction between the different "hierarchical" relationships: generic, part-of, instantiate;
-   Taking into account proper names;
-   Attaching figures to concepts;
-   Exporting thesauri in SKOS.

These "good" principles were presented at the last TMP training in Roma during the final AthenaPlus plenary meeting.

6. ANNEX I: REFERENCE TERMINOLOGIES IN THE TMP

TMP URL	Thesaurus Name	Thesaurus owner
http://athenaplus.thesaurus.condillac.org/thesaurus_historical_documents_1429679762663	Historical Documents	lorenzapop@yahoo.com
http://athenaplus.thesaurus.condillac.org/thesaurus_mtn_1425296012452	ICCD Object name thesaurus	mariateresa.natale@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_materials_thesaurus_1426503467841	LSH Materials thesaurus	linnea.karlberg@lsh.se
http://athenaplus.thesaurus.condillac.org/thesaurus_lsh_object_name_thesaurus_1426513593246	LSH Object name thesaurus	linnea.karlberg@lsh.se
http://athenaplus.thesaurus.condillac.org/thesaurus_thesaurus_pico_43_1411586031665	Thesaurus PICO 4.3	mariateresa.natale@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusActivities_1445327224144	PartagePlus Techniques	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusObjects_1445328006119	PartagePlus Objects	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusAgents_1445330061507	PartagePlus Agents	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusMaterials_1445330626707	PartagePlus Materials	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_PartagePlusStyles_1445330855671	PartagePlus Styles	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_PlantinMoretusObjectnames_1445331667108	Plantin-Moretus Object names	e.coudyzer@kmkg-mrah.be

http://athenaplus.thesaurus.condillac.org/thesaurus_StedelijkeMuseaMechelenObjectnames_1445331937757	Stedelijke Musea Mechelen Object names	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_EuropeanaPhotography_1445332374044	Europeana Photography	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_BritishMuseumObjectNames_1445334767696	British Museum Object Names	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_TheIsraelMuseumObjectnames_1445335826572	The Israel Museum Object names	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_SENESCHALArchaeologicalObjects_1445336344758	SENESCHAL-Archaeological Objects (Scotland)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_SENESCHALMaritimeCraftScotland_1445337514314	SENESCHAL-Maritime Craft (Scotland)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_SeneschalMonumenttypethesaurusScotland_1445337975817	Seneschal-Monument type thesaurus (Scotland)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_SENESCHALMaritimecrafttypeEnglishheritage_1445338356201	SENESCHAL-Maritime craft type (English heritage)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_EvidenceEnglishheritage_1445338591065	Evidence (English heritage)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_MonumenttypesEnglishheritage_1445338808510	Monument types (English heritage)	e.coudyzer@kmkg-mrah.be

http://athenaplus.thesaurus.condillac.org/thesaurus_MonumenttypesWales_1445339841101	Monument types (Wales)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_T1445340216582_1445340218503	MULTITA - Styles and periods	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_MULTITATextilethesaurus_1445340795845	MULTITA - Textile thesaurus	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_LIDOEventtype_1445345255158	LIDO Event type	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_LIDOActorroles_1445345738580	LIDO Actor roles	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_T1445346795101_1445346795515	Systematik Möbel	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_ArchaeologicalSciencesEnglishHeritage_1445347159839	FISH - Archaeological Sciences	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_ComponentsEnglishHeritage_1445347534976	Components (English Heritage)	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_FISHArchaeologicalObjects_1445347833324	FISH - Archaeological Objects	e.coudyzer@kmkg-mrah.be
http://athenaplus.thesaurus.condillac.org/thesaurus_FISHEventtypes_1445348435256	FISH - Event types	e.coudyzer@kmkg-mrah.be

7. ANNEX II: TEST-THESAURI IN THE TMP

http://athenaplus.thesaurus.condillac.org/thesaurus_T1446048788492_1446048788659	Archaeological Sciences	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_eh_tmc_1446049119301	Maritime Craft Type	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_eh_tmt_1446049216270	Monument Type	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_T1446049251312_1446049253355	FISH Archaeological Objects Thesaurus	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_rc_1_1446049301986	Monument Type Thesaurus - Scotland	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_rc_2_1446049315253	Archaeological Objects Thesaurus - Scotland	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_rc_3_1446049340386	Maritime Craft	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_rc_10_1446049381470	Monument Type Thesaurus - Wales	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_rc_11_1446049391434	Period - Wales	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_BritishMuseum_144606282214 6	British Museum	British Museum
http://athenaplus.thesaurus.condillac.org/thesaurus_T1446109778813_1446109778948	Activities	Partage Plus

http://athenaplus.thesaurus.condillac.org/thesaurus_StylesandPeriods_1446110382894	Styles and Periods	Partage Plus
http://athenaplus.thesaurus.condillac.org/thesaurus_Agents_1446110391124	Agents	Partage Plus
http://athenaplus.thesaurus.condillac.org/thesaurus_Materials_1446110401311	Materials	Partage Plus
http://athenaplus.thesaurus.condillac.org/thesaurus_Objects_1446110416918	Objects	Partage Plus
http://athenaplus.thesaurus.condillac.org/thesaurus_TrainingSessionRoma21102015_1445413451325	Training Session Roma 21 10 2015	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_KMKG1_1445417105961	KMKG 1	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_CultureTerminology_1445417283019	Culture-Terminology	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_ThesaurusIC_1445424290709	Thesaurus-IC	generic30
http://athenaplus.thesaurus.condillac.org/thesaurus_Prova_1445424311587	Prova	generic17
http://athenaplus.thesaurus.condillac.org/thesaurus_Rotaslietas_1445424327231	Rotaslietas	generic24
http://athenaplus.thesaurus.condillac.org/thesaurus_clocksandwatches_1445424336846	clocks and watches	generic18
http://athenaplus.thesaurus.condillac.org/thesaurus_timepice_1445424435119	time pice	generic19
http://athenaplus.thesaurus.condillac.org/thesaurus_PREALP_1445424514325	PREALP	generic7
http://athenaplus.thesaurus.condillac.org/thesaurus_fantasia_1445424681581	fantasia	generic11

http://athenaplus.thesaurus.condillac.org/thesaurus_Libraries_1445424759936	Libraries	generic21
http://athenaplus.thesaurus.condillac.org/thesaurus_Test2_1445436664897	Test2	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_Soggetti_1445437219905	Soggetti	generic7
http://athenaplus.thesaurus.condillac.org/thesaurus_T1446048297849_1446048297997	Event Type	english-heritage.org
http://athenaplus.thesaurus.condillac.org/thesaurus_actorrole2map_1412357129044	ActorRole2Map	r.stein@fotomarburg.de
http://athenaplus.thesaurus.condillac.org/thesaurus_actorrole2map2_142496417785 6	ActorRole2Map2	r.stein@fotomarburg.de
http://athenaplus.thesaurus.condillac.org/thesaurus_art_nouveau_style_1429126169426	Art Nouveau Style	r.stein@fotomarburg.de
http://athenaplus.thesaurus.condillac.org/thesaurus_bethlehem_architecture_140621178698	Bethlehem Architecture	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_comics_1402345572684	Comics	luc.damas@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_computing_history_1427463919666	Computing history	klindt@zib.de
http://athenaplus.thesaurus.condillac.org/thesaurus_culturaliaterminology_1435923242940	Culturalia-terminology	Dan@cimec.ro
http://athenaplus.thesaurus.condillac.org/thesaurus_designation_1403084610951	Designation	marie-veronique.leroi@culture.gouv.fr

http://athenaplus.thesaurus.condillac.org/thesaurus_eajc_test_1425027831422	EAJC test	lstanley.clamp@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_gammasass_1432129664957	GammaSASS_project	gamma
http://athenaplus.thesaurus.condillac.org/thesaurus_gammatest_1425042524171	GammaTest	gamma
http://athenaplus.thesaurus.condillac.org/thesaurus_historical_documents_142502 5208975	Historical documents	cristianciurea@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_ifmtest_1427456438253	IFM-Test	f.v.hagel@smb.spk-berlin.de
http://athenaplus.thesaurus.condillac.org/thesaurus_kleidung_1427458721208	Kleidung	frauke.rehder@digicult-verbund.de
http://athenaplus.thesaurus.condillac.org/thesaurus_material_1429126387859	Material	r.stein@fotomarburg.de
http://athenaplus.thesaurus.condillac.org/thesaurus_liberty_1412077673892	Movimenti artistici	francesca.boldrighini@beniculturali.it
http://athenaplus.thesaurus.condillac.org/thesaurus_museu_de_olaria_1436716560 268	Museu de Olaria	lilianaccf@portugalmail.pt
http://athenaplus.thesaurus.condillac.org/thesaurus_museums_1412077855250	Museums	luana.capitani86@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_music_1425970939551	Music	jutta.lindenthal@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_my_test_1402467464224	My Test 1 - Vente en ligne	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_my_test_2_1411559300382	My Test 2 - Informatique	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_object_1429127956738	Object	r.stein@fotomarburg.de

http://athenaplus.thesaurus.condillac.org/thesaurus_eb_test_1403073132319	Object thesaurus KIK-IRPA (test)	erik.buelinckx@kikirpa.be
http://athenaplus.thesaurus.condillac.org/thesaurus_oggetto_1403073425424	Oggetto	mariateresa.natale@gmail.com
http://athenaplus.thesaurus.condillac.org/thesaurus_porzellan_1427458425135	Porzellan	s.rohde-enslin@smb.spk-berlin.de
http://athenaplus.thesaurus.condillac.org/thesaurus_programming_1401894802186	Programming	luc.damas@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_rome_1412071099905	Rome	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_sm_test_zdbo_1425026104934	SM_test [|zDBó	sebastian.michalek@icimss.edu.pl
http://athenaplus.thesaurus.condillac.org/thesaurus_scultura_romana_1412077764512	Scultura romana	caterina.nasti@beniculturali.it
http://athenaplus.thesaurus.condillac.org/thesaurus_technique_1429132480962	Technique	r.stein@fotomarburg.de
http://athenaplus.thesaurus.condillac.org/thesaurus_test_1426845321516	Test	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_test_te_ma_1427460361780	Test TE MA	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_test_riga_1425027558339	Test riga	limis@ausrosmuziejus.lt
http://athenaplus.thesaurus.condillac.org/thesaurus_testberlin_1427452440574	TestBerlin	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_testdc_1427358568444	TestdC	frauke.rehder@digicult-

		verbund.de
http://athenaplus.thesaurus.condillac.org/thesaurus_PICOThesaurus_1446124117104	PICO Thesaurus	luc.damas@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_time_piece_1402300381610	Time Device	roche@univ-savoie.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_time_pieces_1410857937406	Time pieces	vesna.lovric.plantic@muo.hr
http://athenaplus.thesaurus.condillac.org/thesaurus_vocabolario_architettura_1412077890901	Vocabolario ARCHITETTURA	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_ww1_objects_type_1412077587910	WW1 objects type	francesco.gandolfi@beniculturali.it
http://athenaplus.thesaurus.condillac.org/thesaurus_andrese_test_1425025030245	andrese_test	mirjam.raabis@kul.ee
http://athenaplus.thesaurus.condillac.org/thesaurus_ceramica_1412077610157	ceramica	archiviofotografico@societageografica.it
http://athenaplus.thesaurus.condillac.org/thesaurus_dkulttest_1427462537242	dkultTest	norakrause@yahoo.de
http://athenaplus.thesaurus.condillac.org/thesaurus_mirjami_test_1425025611324	mirjami_test	mirjam.raabis@kul.ee
http://athenaplus.thesaurus.condillac.org/thesaurus_test_1425025010243	test	mirjam.raabis@kul.ee
http://athenaplus.thesaurus.condillac.org/thesaurus_testactivitytype_1422366638082	testActivityType	diehr@sub.uni-goettingen.de
http://athenaplus.thesaurus.condillac.org/thesaurus_testing_1403247808412	testing	marie-veronique.leroi@culture.gouv.fr

http://athenaplus.thesaurus.condillac.org/thesaurus_testing2_1427400903176	testing2	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_teszt_pim_1426845723742	teszt_PIM	marie-veronique.leroi@culture.gouv.fr
http://athenaplus.thesaurus.condillac.org/thesaurus_Relais_1445157663502	Relais	generic30
http://athenaplus.thesaurus.condillac.org/thesaurus_TimePiece_1445202250552	Time Piece	generic30