

Mapping of the SITAR database towards CIDOC CRM-Archeo *(project documentation)*

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Introduction

In this document we illustrate the result of the activity regarding the mapping between the database SITAR of the Soprintendenza Speciale per il Colosseo, il Museo Nazionale Romano e l'Area Archeologica di Roma (SSCol) and the semantic model (CIDOC CRM- Archaeo) under development in the Ariande project. CRM Archaeo is a semantic model and represents an extension of the well-known CIDOC-CRM model [Definition of the CIDOC Conceptual Reference Model, *produced by the ICOM/CIDOC Documentation Standards Group, continued by the CIDOC CRM Special Interest Group, Version 6.2.1 October 2015*].

The objective of the work was twofold. On one hand the mapping between the SITAR database schema and the concepts of the semantic model CIDOC CRM-Archaeo has to be defined. On the other hand, the data contained in the current database instance have to be extracted and represented in RDF, using the XML language.

In the following sections each phase is described in details, in particular:

- Section I illustrates the mapping definition phase, in particular it describes: (i) the source schema (SITAR) using UML class diagrams extended for dealing with the spatial component, (ii) the criteria used to map concepts from SITAR to CIDOC CRM-Archaeo or other related semantic models and (iii) the rationale of some core choices in the mapping.
- Section II illustrates the solution adopted for producing the RDF files containing data extracted from the SITAR database and translated in RDF triples using the XML syntax.

The work has been carried out by the Department of Computer Science (University of Verona) Italy under the supervision of Alberto Belussi and in strict cooperation with the domain experts of the (SSCol) for the SITAR model, and representatives of ICCU and PIN for the CIDOC-CRM and compliant models.

I Section Mapping definition

The kernel of the SITAR database can be described at conceptual level by means of the UML class diagram shown in Fig. 1. In this diagram three core concepts are reported as UML classes: the **information source**, the **archaeological partition** and the **archaeological unit**.

The SITAR class and collection of the “ORIGINI DELL’INFORMAZIONE”, in Italian acronym “OI” and in the English translation **information sources**, concern:

- the geo-referencing,
- the administrative (included persons related to each intervention and with exclusion of: the natural or legal personal information different from scientific équipe persons; the real estate data; the costs of interventions; and for all the other attributes not shared, as better detailed in technical attachment “A” of the Consortium Agreement signed in 2013 and updated in 2015 by the Consortium, ICCU and SSCol),
- the methodological, and temporal information and metadata, and short references to bibliography, documents/surveys and internal/external archive documents of each:
 - extended archaeological research and excavation,
 - preventive archaeology research and excavation,
 - geophysical & geological survey,
 - topographical and territorial study,
 - bibliography and/or archive sources analysis,
 - monograph research and study on a single archaeological monument or complex,
 - restoration/conservation/preservation intervention,
 - etc.,

carried out in the territory of Cities of Rome and Fiumicino, since about 1860 up to date.

This SITAR OI collection gives a rich example of an institutional archaeological territorial data registry, basically indexed by:

- research area,
- intervention typology,
- date,
- conventional name of research

and guarantees the availability of archaeological metadata and specific scientific information for the researchers of ARIADNE consortium through the ARIADNE Portal, and/or by contacting directly the SITAR Service at SSCol for more detailed and comprehensive archive data.

The ARIADNE metadata of the OI collection are described at:

<http://registry.riadne-infrastructure.eu/index.php?p=form-12&id=44>

Within this context of activities of mapping SITAR OI and PA classes toward CIDOC CRM-Archeo and interoperability tests to be undertaken, SSCol provides to the ARIADNE Research Consortium a total number of 780 Information Sources.

The SITAR class and collection of the “PARTIZIONI ARCHEOLOGICHE”, in Italian acronym “PA” and in the English translation **archaeological partitions**, concern the scientific description of each archaeological finding of structural and non-structural nature, provided that it has an informational value in ancient topography terms, at least also minimal or uncertain at the first recording time within the SITAR database.

A PA is always identified by the binomial of chronological and functional criteria, even if in most cases fragmentary/disconnected w.r.t. :

1) the specific methodological - spatio-temporal - administrative context of the Information Source within which each PA is “generated” and to which is univocally linked in the SITAR data model,
2) the original continuity/identity of the unique archaeological structural and/or stratigraphic macro-entity of which each PA represents by itself a portion identified, documented and geo-referenced through different methods, times and by different scientific équipes.

Obviously, each PA is characterized also by means of:

- three taxonomic levels (objective, specific, interpretative definition),
- a textual description,

- the quality of geo-referencing, the method of geo-referencing, the cartographic representation and the accessibility,
- a detailed chronology,
- possibly, its building techniques,
- some bibliography references,
- some links to archive documents,
- possibly, some connections with other PA and/or Stratigraphic Units and/or monuments and complexes.

The ARIADNE metadata of the PA collection are described at:
<http://registry.riadne-infrastructure.eu/index.php?p=form-12&id=44>

Within this context of activities of mapping SITAR OI and PA classes toward CIDOC CRM-Archeo and interoperability tests to be undertaken, SSCol provides to the ARIADNE Research Consortium a total number of 2007 Archaeological Partitions, related to the selected Information Sources.

The **archaeological unit** is a class of objects representing each archaeological complex or monument under study; conventionally an archaeological unit is identified by the logical union of many archaeological partitions, which can be analyzed together producing an unambiguous archaeological monumental context (for example a specific ancient building). Within this context of activities regarding the mapping of SITAR classes toward CIDOC CRM-Archeo and interoperability tests to be undertaken, the UA class is not subject of data provision by SSCol.

At the time of redaction of this document, the SITAR schema is being integrated also with the Stratigraphic Units class that finds a direct matching with the CRM-Archeo A2 and A3 ones, also in terms of mapping; however no data will be provided by SSCol regarding this class.

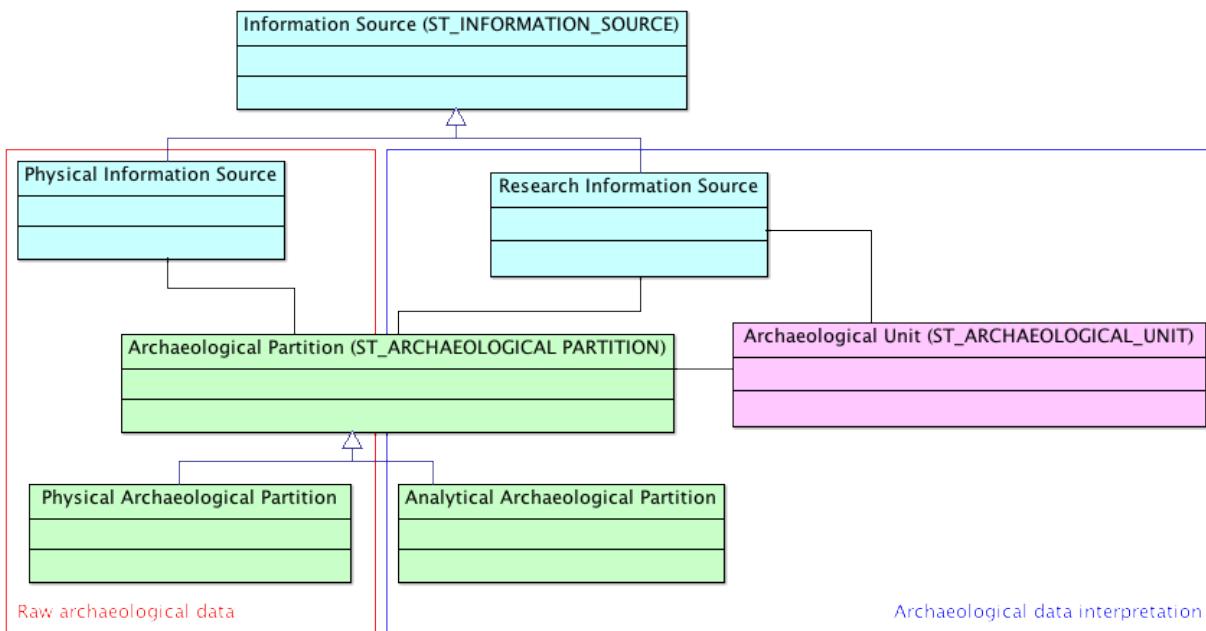


FIGURE 1

In the following subsections we illustrate in details the mapping towards CIDOC CRM-Archeo (or other related models: CIDOC CRM, CRM Sci, SKOS) of each of these classes. Many other UML classes are contained in the conceptual schema of SITAR database for describing: (i) the vocabularies used as domain of class attributes, (ii) the chronology of the Archaeological Partitions, (iii) the location of the Information Source and Archaeological Partitions, (iv) the archive documents and the bibliography associated to the Information Sources and Archaeological Partitions. These classes will be described during the illustration of the mapping.

Mapping of the vocabularies

In the conceptual schema of SITAR we found several vocabularies that have been used for the taxonomy of the core concepts or for the classification of the instances of other classes. They are listed in Table 1.

Vocabulary	Used as domain of	Mapped to
ST_ACQUISITION_METHODODOLOGY	ST_INFORMATION_SOURCE.ACQUISITION_METHODODOLOGY	E55_Type
ST_ARCHIVE_REFERENCE_TYPE	ST_ARCHIVE_REFERENCE.TYPE	E55_Type
ST_INFORMATION_SOURCE_DOCUMENT_TYPE	ST_INFORMATION_SOURCE_DOCUMENT.TYPE	E55_Type
ST_ARCHEO_PART_TYPE	ST_ARCHEO_PART.TYPE	E55_Type
ST_ARCHEO_PART_DOCUMENT_TYPE	ST_ARCHEO_PART_DOCUMENT.TYPE	E55_Type
ST_GEO_REFERENCE_ACCURACY	ST_INFORMATION_SOURCE.GEO_REFERENCE_ACCURACY ST_ARCHEO_PART.GEO_REFERENCE_ACCURACY ST_STRATIGRAPHIC_UNIT.GEO_REFERENCE_ACCURACY	E55_Type
ST_GEO_REFERENCE_METHOD	ST_INFORMATION_SOURCE.GEO_REFERENCE_METHOD ST_ARCHEO_PART.GEO_REFERENCE_METHOD ST_STRATIGRAPHIC_UNIT.GEO_REFERENCE_METHOD	E55_Type
ST_REPRESENTATION_ACCURACY	ST_INFORMATION_SOURCE.GEO_REPRESENTATION_ACCURACY ST_ARCHEO_PART.GEO_REPRESENTATION_ACCURACY ST_STRATIGRAPHIC_UNIT.GEO_REPRESENTATION_ACCURACY	E55_Type
ST_ARCHEO_PART_OBJECTIVE_DEFINITION	ST_ARCHEO_PART_DOCUMENT.OBJECTIVE_DEFINITION	E55_Type
ST_ARCHEO_PART_SPECIFIC_DEFINITION	ST_ARCHEO_PART_DOCUMENT.SPECIFIC_DEFINITION	E55_Type
ST_DATING_METHOD	ST_PHASE.DATING_METHOD	E55_Type
ST_MATERIAL	ST_BUILDING_TECHNIQUE.MATERIAL	E55_Type
ST_NAMED_YEAR_RANGE	ST_PAHSE.*	E55_Type
ST KNOWLEDGE_ACCESSIBILITY	ST_ARCHEO_PART.KNOWLEDGE_ACCESSIBILITY	E55_Type
ST_CHRONOLOGY_TYPE	ST_PAHSE.DATING_METHOD	E55_Type

Table 1: vocabularies of SITAR database

For all of them we have adopted the same mapping towards CIDOC-CRM as described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The lemma in Italian has been mapped to a rdf-schema#label with language='it'.
- The corresponding translation in English has been mapped to another rdf-schema#label with language='en'.
- When available the mapping of the lemma towards the Getty vocabulary (Art & Architecture Thesaurus® Online, <http://www.getty.edu/research/tools/vocabularies/aat/index.html>) has been represented as a property core#exactMatch/core#narrowMatch/core#broadMatch/core#relatedMatch from the E55_Type to the corresponding concept of the Getty vocabulary linked by means of its URL.

In Appendix A we list the vocabularies and their corresponding translations in English and the mapping towards the Getty vocabulary.

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
D	 //FeatureCollection/ ST_GEO_REFERENCE_ACCURACY	E55_Type	
P	NAME	rdf-schema#label	
R	NAME	rdf-schema#Literal it	
P	NAME	rdf-schema#label	

	NAME_EN		
R		rdf-schema#Literal en	
P	 ↓ ID == TERM_ID ST_GEO_REFERENCE_ACCURACY_GETTY ↓ GETTY_URL	 ↓ core#exactMatch	//FeatureCollection/ST_GEO_REFERENCE_ACCURACY_GETTY[TERM_ID=./ID]/SKOS_REL =exactMatch
R		core#Concept	
P	 ↓ ID == TERM_ID ST_GEO_REFERENCE_ACCURACY_GETTY ↓ GETTY_URL	 ↓ core#narrowMatch	//FeatureCollection/ST_GEO_REFERENCE_ACCURACY_GETTY[TERM_ID=./ID]/SKOS_REL =narrowMatch
R		core#Concept	
P	 ↓ ID == TERM_ID ST_GEO_REFERENCE_ACCURACY_GETTY ↓ GETTY_URL	 ↓ core#broadMatch	//FeatureCollection/ST_GEO_REFERENCE_ACCURACY_GETTY[TERM_ID=./ID]/SKOS_REL =broadMatch
R		core#Concept	
P	 ↓ ID == TERM_ID ST_GEO_REFERENCE_ACCURACY_GETTY ↓ GETTY_URL	 ↓ core#relatedMatch	//FeatureCollection/ST_GEO_REFERENCE_ACCURACY_GETTY[TERM_ID=./ID]/SKOS_REL =relatedMatch
R		core#Concept	

Mapping of the location attributes

The attribute describing the location of an instance of Information Source or Archaeological Partition class, have been mapped to CIDOC-CRM as described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The attribute GEOMETRY is mapped into an instance of the **E53_Place** class with a property **P168_place_is_defined_by** having as target value the GML representation (spatial reference system EPSG 3004) of the instance location specified as **rdf-schema#Literal**.
- The geo-reference accuracy of this geometric value is mapped to an instance of the **E55_Type** class, which is mapped as described in the previous section, since the geo-reference accuracy is a vocabulary in SITAR database (ST_GEO_REFERENCE_ACCURACY). The same approach has been followed for the representation accuracy, which is described by the SITAR vocabulary (ST_REPRESENTATION_ACCURACY).
- The reference method is mapped to an instance of **E55_Type** class, through an intermediate class **E16_Measurement**; also the reference method is a SITAR vocabulary (ST_GEO_REFERENCE_METHOD).
- Finally only for the geometries of the Archaeological Partition class property **P89i_contains** is specified linking the altimetry points that are spatially contained in the represented geometry. Each altimetry point is mapped into other instances of the class **E53_Place**.

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D  //FeatureCollection//GEOMETRY	 E53_Place	
P  ..//GEOMETRY	 P168_place_is_defined_by	
R  ..//GEOMETRY	 rdf-schema#Literal GML	
P  ..//GEO_REFERENCE_ACCURACY == ID	 P2_has_type	
R  ..//FeatureCollection/ST_GEO_REFERENCE_ACCURACY	 E55_Type [P2_has_type] [E55_Type = "georeference accuracy"]	
P  ..//GEO_REFERENCE_METHOD == ID	 P39i_was_measured_by  E16_Measurement  P32_used_general_technique	
R  ..//FeatureCollection/ST_GEO_REFERENCE_METHOD	 E55_Type	
P  ..//REPRESENTATION_ACCURACY == ID	 P2_has_type	
R  ..//FeatureCollection/ST_REPRESENTATION_ACCURACY	 E55_Type [P2_has_type] [E55_Type = "representation accuracy"]	
P  ..//ID == ACHAEO_PART_ID	 P89i_contains	exists(//*ancestor::ST_ARCHAEO_PART) (only for the geometry of an ar..)
R 	 E53_Place	

//FeatureCollection/ST_ALTIMETRIC_POINT		
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ALTIMETRIC POINT

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D //FeatureCollection/ST_ALTIMETRIC_POINT	E53_Place	
P ALTIMETRIC_POINT	P2_has_type E55_Type rdf-schema#label	
R ALTIMETRIC_POINT	rdf-schema#Literal	
P GEOMETRY+ALTITUDE	P168_place_is_defined_by	
R GEOMETRY+ALTITUDE	rdf-schema#Literal GML	(3D point produced by merge geo..)

Mapping of the temporal attributes

In several classes it is necessary to map time interval or named year range. The following mappings are proposed for this type of properties. The first mapping is used when the temporal interval is specified by assigning a start date and an end date. The second one is used when the temporal interval is specified by assigning a start year and an end year. The third one regards the representation of the named year range.

PERIOD WITH START DATE AND END DATE

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D //START_DATE	E52_Time-Span	exists(../END_DATE)
P ..../START_DATE	P82a_begin_of_the_begin	
R ..../START_DATE	XMLSchema#dateTime	
P ..../START_DATE	P81a_end_of_the_begin	
R ..../START_DATE	XMLSchema#dateTime	
P ..../END_DATE	P81b_begin_of_the_end	
R ..../END_DATE	XMLSchema#dateTime	
P ..../END_DATE	P82b_end_of_the_end	
R ..../END_DATE	XMLSchema#dateTime	

PERIOD WITH START YEAR AND END YEAR

	SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D	//START_YEAR	E52_Time-Span	
P	..../START_YEAR	P82a_begin_of_the_begin	
R	..../START_YEAR	XMLSchema#dateTime	
P	..../START_YEAR	P81a_end_of_the_begin	
R	..../START_YEAR	XMLSchema#dateTime	
P	..../END_YEAR	P81b_begin_of_the_end	
R	..../END_YEAR	XMLSchema#dateTime	
P	..../END_YEAR	P82b_end_of_the_end	
R	..../END_YEAR	XMLSchema#dateTime	

NAMED YEAR RANGE

	SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D	//FeatureCollection/ ST_NAMED_YEAR_RANGE	E4_Period	
P	NAME	P1_is_identified_by E49_Time_Appellation rdf-schema#label	
R	NAME	rdf-schema#Literal it	
P	NAME_EN	L54_is_same-as core#Concept[SKOS-C2] core#prefLabel	
R	NAME_EN	rdf-schema#Literal en	
P	GETTY	L54_is_same-as core#Concept[SKOS-C2] core#exactMatch	
R	GETTY	core#Concept	

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
P ↓ START_YEAR	↓ <i>P4_has_time-span</i>	
R □ START_YEAR	□ <i>E52_Time-Span</i>	
P ↓ END_YEAR	↓ <i>P4_has_time-span</i>	
R □ END_YEAR	□ <i>E52_Time-Span</i>	
P ↓ GETTY	↓ <i>L54_is_same-as</i> core#Concept[SKOS_C2] ↓ <i>core#related</i>	
R □ GETTY	□ <i>core#Concept</i>	

Mapping of bibliography references

Each bibliography reference is mapped into an object of the class E73_Information_Object. The attributes of a bibliography reference have been mapped to CIDOC-CRM as described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The authors and the date of the publication has been represented by means of an instance of the *E65_Creation* class as follows:

P94i_was_created_by → *E65_Creation* → *P14_carried_out_by* → *E21_Person*

↓
P2_has_type

↓
E55_Type = "author"

and

P94i_was_created_by → *E65_Creation* → *P4_has_time-span* → *E52_Time-Span*

- The attribute OPAC_SBN_CODE represents the preferred identifier since it is adopted as reference key for the information search in the online thesauri: www.sbn.it/ and <http://www.internetculturale.it/>.

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D //FeatureCollection/ ST_OPAC_SBN_RECORD	E73_Information_Object	
P OPAC_SBN_CODE	<i>P48_has_preferred_identifier</i> <i>E42_Identifier</i> <i>rdf-schema#label</i>	
R OPAC_SBN_CODE	<i>rdf-schema#Literal</i>	
P ISBN_CODE	<i>P1_is_identified_by</i> <i>E42_Identifier</i> <i>[P2_has_type]</i> <i>[E55_Type = "ISBN code"]</i> <i>rdf-schema#label</i>	
R ISBN_CODE	<i>rdf-schema#Literal</i>	
P ISSN_CODE	<i>P165i_is_incorporated_in</i> <i>E73_Information_Object</i> <i>[P2_has_type]</i> <i>[E55_Type = "journal"]</i> <i>P1_is_identified_by</i> <i>E42_Identifier</i> <i>[P2_has_type]</i> <i>[E55_Type = "ISSN code"]</i> <i>rdf-schema#label</i>	
R ISSN_CODE	<i>rdf-schema#Literal</i>	
P TITLE	<i>P102_has_title</i> <i>E35_Title</i> <i>rdf-schema#label</i>	

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
R TITLE	rdf-schema#Literal	
P PUBLISHER	P94i_was_created_by E65_Creation[E65-1] P14_carried_out_by E21_Person <i>[P2_has_type]</i> <i>[E55_Type = "author"]</i> rdf-schema#label	
R	rdf-schema#Literal	
P DATE	P94i_was_created_by E65_Creation[E65-1] P4_has_time-span	(the instance of E65_Creation i..)
R DATE	E52_Time-Span	(the instance of E52 will be th..)

Mapping of document references

The document references are used for both Information Source and Archaeological Partition objects and have been mapped to CIDOC-CRM as described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The licence attribute is represented by means of an instance of the class **E30_Right** through the following properties sequence:
 $P104_is_subject_to \rightarrow E30_Right \rightarrow P1_is_identified_by \rightarrow E41_Appellation$
 $\rightarrow \text{rdf-schema\#label} \rightarrow \text{rdf-schema\#Literal}$

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE COMMENTS
D //FeatureCollection/ ST_INFORMATION_SOURCE_DOCUMENT	E31_Document	
P TITLE	P102_has_title E35_Title rdf-schema#label	
R TITLE	rdf-schema#Literal it	
P DESCRIPTION	P3_has_note	
R DESCRIPTION	rdf-schema#Literal it	
P TYPE	P2_has_type	

R		TYPE		E55_Type		
P		LICENCE_ID == ID		P104_is_subject_to E30_Right 	P1_is_identified_by E41_Appellation rdf-schema#label	
R		//FeatureCollection/ST_LICENCE		rdf-schema#Literal		

Mapping of the class Information Source (OI)

Since OI is a very general class of objects, its instances are classified by the acquisition methodology that characterizes them. We have distinguished here between: (i) the sources, which describe a physical process of data collection and (ii) the research studies, which analyse documents and other literary sources, obtaining two subclasses: Physical Information Source and Research Information Source, as shown in Fig.1.

Starting from this clear distinction of the OI instances, we have defined their mapping towards CIDOC CRM-Archeo as follows. It depends on the values of the attribute ACQUISITION METHODOLOGY:

- when ACQUISITION METHODOLOGY = extended excavation → *A1_Excavation_Process_Unit*
- when ACQUISITION METHODOLOGY = sample excavation → *A1_Excavation_Process_Unit*
- when ACQUISITION METHODOLOGY = monograph on single archaeological monument or complex → *E13_Attribute_Assignment*
- when ACQUISITION METHODOLOGY NOT IN (extended excavation, sample excavation, monograph on single archaeological monument or complex) → *S4_Observation*

We have chosen S4 for all the cases in which some kind of physical survey on the territory has been carried out but it was not an excavation. Finally the class *E13* has been chosen for representing the specific case of monograph study applied/undertaken w.r.t. the unambiguous identification and description of an archaeological monument or complex within the diacronic cadastre of Rome, represented throughout the SITAR UA class.

In the 3M mapping tool these mapping rules have been represented in the matching table as follows:

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMM ENTS
D //FeatureCollection/ST_INFORMATION_SOURCE	 A1_Excavation_Process_Unit	..../ACQUISITION METHODOLOGY = scavo estensivo OR ..../ACQUISITION METHODOLOGY = saggio di scavo	
SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMM ENTS
D //FeatureCollection/ST_INFORMATION_SOURCE	 S4_Observation	NOT ..../ACQUISITION METHODOLOGY = scavo estensivo AND NOT ..../ACQUISITION METHODOLOGY = saggio di scavo AND NOT ..../ACQUISITION METHODOLOGY = studio monografico di unità archeologica	
SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMM ENTS
D //FeatureCollection/ST_INFORMATION_SOURCE	 E13_Attribute_Assignment	..../ACQUISITION METHODOLOGY = studio monografico di unità archeologica	

The attributes of the OI class are mapped as described in the matching table of the 3M mapping tool reported hereby. Here the case regarding the mapping towards *A1_Excavation_Process_Unit* is described, the others are similar.

Notice that:

- In *S4* the geometry attribute has been mapped into the property *P7_took_place_at* which substitutes the property *AP3_excatvated* that has been used for the same attribute in *A1*. In *E13* the geometry attribute has not been represented, since the instances of *E13* only represent a research activity that consider the study of a specific archaeological monument or complex, thus the localization of the study is derived from the address and locality, while the geometry is derived from the UA.
- In *E13* the applicant and the executor are not specified, while in *S4* and *A1* they are.
- The property *P4_has_time-span* is instantiated starting from a START_DATE source attribute; however it is used here to map a temporal interval as described in details in the previous dedicated subsection “Mapping of temporal attributes”.

EXCAVATION PROCESS UNIT

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
D //FeatureCollection/ ST_INFORMATION_SOURCE	A1_Excavation_Process_Unit	..//ACQUISITION_METHODOLOGY = "scavo estensivo" OR..//ACQUISITION_METHODOLOGY = "saggio di scavo"	
P ID	P1_is_identified_by E42_Identifier [P2_has_type] [E55_Type = "internal identifier"] en rdf-schema#label		
R ID	rdf-schema#Literal		
P ACQUISITION_METHODOLOGY_ID == ID	P2_has_type		
R //FeatureCollection/ST_ACQUISITION_ METHODOLOGY	E55_Type		
P SITAR_CODE	P48_has_preferred_identifier E42_Identifier [P2_has_type] [E55_Type = "internal code"] en rdf-schema#label		
R SITAR_CODE	rdf-schema#Literal		
P DESCRIPTION	P3_has_note		
R DESCRIPTION	rdf-schema#Literal it		
P START_DATE	P4_has_time-span		

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
R START_DATE	E52_Time-Span		
P NAME	P1_is_identified_by E41_Appellation rdf-schema#label		
R NAME	rdf-schema#Literal it		
P OPAC_SBN_RECORD_ID == ID	P67i_is_referred_to_by		
R //FeatureCollection/ST_OPAC_SBN_RECORD	E73_Information_Object		
P LIABLE_OFFICIER == ID	P01i_is_domain_of PC14_carried_out_by [P14.1_in_the_role_of] [E55_Type = "liable officier"]		
	P02_has_range		
R //FeatureCollection/ST_PERSON	E21_Person		
P SCIENTIFIC_ADVISOR_ID == ID	P01i_is_domain_of PC14_carried_out_by [P14.1_in_the_role_of] [E55_Type = "scientific equipe member"]		
	P02_has_range		
R //FeatureCollection/ST_PERSON	E21_Person		
P OWNER == ID	P01i_is_domain_of PC14_carried_out_by [P14.1_in_the_role_of] [E55_Type = "owner"]		
	P02_has_range		
R //FeatureCollection/ST_PERSON	E40_Legal_Body		
P APPLICANT == ID	P01i_is_domain_of PC14_carried_out_by [P14.1_in_the_role_of] [E55_Type = "applicant"]		
	P02_has_range		
R //FeatureCollection/ST_PERSON	E39_Actor		
P ID == INFORMATION_SOURCE_ID	P70i_is_documented_in		

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
R //FeatureCollection/ST_ARCHIVE_REFERENCE	E31_Document [P2_has_type] [E55_Type = "archive dossier"]		
P ↓ EXECUTOR_ID == ID	P01i_is_domain_of ↓ PC14_carried_out_by [P14.1_in_the_role_of] [E55_Type = "executor"]		
R //FeatureCollection/ST_PERSON	P02_has_range ↓ E40_Legal_Body		
P ↓ GEOMETRY	↓ AP3_excavated		
R //FeatureCollection/ST_GEOMETRY	↓ E53_Place		
P ↓ ID == INFORMATION_SOURCE_ID	↓ P70i_is_documented_in		
R //FeatureCollection/ST_INFORMATION_SOURCE_DOCUMENT	↓ E31_Document		
P ↓ ID == INFORMATION_SOURCE_ID	↓ P7_took_place_at ↓ E53_Place ↓ P1_is_identified_by ↓ E45_Address ↓ rdf-schema#label		
R //FeatureCollection/ST_ITALIAN_ADDRESS_INFO_SOURCE/COMPLETE_ADDRESS	↓ rdf-schema#Literal it		
P ↓ ITALIAN_LOCALITY_ID == ID	↓ P7_took_place_at ↓ E53_Place ↓ P1_is_identified_by ↓ E44_Place_Appellation ↓ rdf-schema#label		
R //FeatureCollection/ST_ITALIAN_LOCALITY	↓ rdf-schema#Literal it		
P ↓ ID == INFORMATION_SOURCE_ID //FeatureCollection/ST_SPATIAL_SUBDIVISION ↓ ID == SPATIAL_SUBDIVISION_ID	↓ AP5_cut		

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
//FeatureCollection/ ST_SPATIAL_SUBDIVISION_STRATIG RAPHIC_UNIT ↓ STRATIGRAPHIC_UNIT_ID			
R  STRATIGRAPHIC_UNIT_ID	 A8_Stratigraphic_Unit		

Mapping of the class Archaeological Partition (PA)

The mapping of the archaeological partition is the core of the work we present in this document. Indeed, in SITAR the archaeological partition represents a very flexible concept used to describe observations at different levels of refinement. Therefore, we propose different types of mapping according to the level of refinement of the information that the PA represents.

In order to identify the different usage of the PA we have exploited two PA attributes: the partition type and the objective definition.

In particular we have chosen to represent each PA object with an instance of the class **S22_Segment_of_Matter** in order to describe with the properties of this object all the information regarding the temporal and spatial location of the information collected by the PA. The only exception to this approach is the case in which the PA does not represent a physical observation, but is used instead to represent a hypothesis of reconstruction or other piece of information produced by an interpretation process usually based only on archive sources analysis; in this case we represent the PA with an instance of the **E92_Spacetime_Volume** class.

The choice of the class **S22_Segment_of_Matter** can be justified as follows.

The choice to more specifically map the PA class towards the referred CRM-sci class S22 (taking into account the current degree of completeness of this class and its properties) has been motivated by the following observation: keeping in mind the concept and description of the PA class given at the beginning of the section at pag. 3, we can notice that the PA class semantics finds a very good correspondence/similarity with the concept of segment of matter explicitly described in CRM-Archeo 1.3 and CRM-sci 1.2.3; in particular, in such description the following assertions are specifically adequate for the PA class:

A) **"physical material in a relative stability of form (substance) within a specific spacetime volume (unity, extend)"**: this is a fundamental binomial aspect in SITAR PA class semantics within the first phase of the identification and aggregation process (carried out *ex-post* in most cases, as undertaken within SITAR data lab from archive information) of each instance of PA class, indeed strictly related to the items of:

- **substance** of a PA, that is normally an aggregate of structures and sometimes also of non-structural stratigraphic units, ever grouped starting from the exact stratigraphic diachronic sequence reported in the field documentation/surveys, and *however on the base of the binomial of deduced chronology plus original function*,
- its **space**, as the finding or visibility area/position and specific extend of each PA that in most cases results non-continuous/fragmented/partially visible (always w.r.t. the specific methodological - spatio-temporal - administrative context of the *Information Source* = S4 - Observation, within which each PA has been/is "generated" and to which is univocally linked in the data model),
- plus the **time**, intended in the concept of SITAR PA class first of all as the *date of discover/identification/description* within which a PA precisely "comes into existence as being an object of discourse through S4 Observation" (while the own ancient chronology of each PA is instead observed and reported/represented in another dedicated section of the PA dataset, and however mapped towards CIDOC CRM through other classes).

B) **"spatial extend of a S22 Segment of Matter is defined by humans usually because the constellation is subject to a specific interest for and investigations of the geometric arrangement of physical features or parts of them on or within the specified S22 Segment of Matter"**: this is another peculiar, methodological aspect of the identification and aggregation of each PA, especially analysed and treated during the mentioned *ex-post* SITAR elaboration process of archive and also new field data;

C) coming "*into existence as being an object of discourse through S4 Observation or declaration*": exactly as it always happens during the mentioned process (regardless of the type of S4 Observation) and for what said above;

D) restriction of "*the time span starting after the last change through an S18 Alteration before the S4 Observation or declaration and ending with the next S18 Alteration Event (identity)*". A S22 Segment of Matter exists as long as there is no modification of the geometric arrangement of its particles. Therefore the **temporal boundaries of the defining Spacetime Volume are given by two S18 Alteration events**": this corresponds for each PA, as said above, to its "identity" to be observed and described, indeed, on the base of the specific space plus time of discovery/visibility/identification and within the specific methodological - spatio-temporal - administrative context of the *Information Source*

(= S4 - Observation) to which each PA is univocally linked;

E) "The history of a S22 Segment of Matter started with the first S17 Physical Genesis event that deposited still existing matter within the defined spatial extend. The collection of all S18 Alteration events represent its history. Some of the events will not leave any physical material within the S22 Segment of Matter": this concept finds a good similarity, in this case, with the own ancient chronology of each PA, specifically described in SITAR data model through the so called "intervalli cronologici" class, i.e. chronological intervals or phases, such as: foundation chronology, life-time, abandon, re-adaptation, re-use, up to contemporary musealization, where necessary, etc.

Note: in order to better tune the mapping between the PA class of SITAR and S22_Segment_of_Matter class, in a semantically more coherent manner, it would desirable that the S22 class could be a subclass of the A8_Stratigraphic_Unit class.

When the PA contains evidences of man made objects we add to the instance of S22 the property:

O22_partially_or_completely_contains → A8_Stratigraphic_Unit →
AP15_is_or_contains_remains_of → E22_Man_Made_Object

Moreover in some specific case, when the partition also contains evidence of features we add also the property:

O22_partially_or_completely_contains → A8_Stratigraphic_Unit →
AP15_is_or_contains_remains_of → E25_Man_Made_Feature (or E26_Physical_Feature)

These cases can be detected by the conditions shown in the IF RULE column of the mapping table in the 3M tool, that we report hereby.

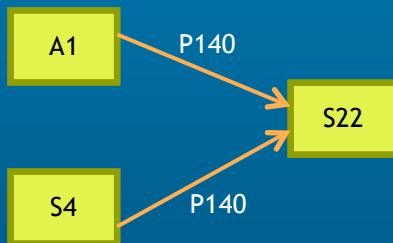
SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ ST_ARCHEO_PART	█ S22_Segment_of_Matter	NOT ..../TYPE = ipotesi ricostruttiva AND NOT ..../TYPE = elemento di ipotesi ricostruttiva AND NOT ..../TYPE = discontinuità-degrado AND NOT ..../TYPE = areale di fonte letteraria diretta

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ ST_ARCHEO_PART	█ E22_Man-Made_Object	..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 1 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 2 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 3 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 4 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 7 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 8 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 9 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 13 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 14 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 15 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 29 OR ..../TYPE = segmento AND ..../OBJECTIVE_DEFINITION_ID = 30 OR ..../TYPE = unità funzionale OR ..../TYPE = partizione funzionale OR ..../TYPE = partizione cronologica OR ..../TYPE = elemento con valenza topografica OR ..../TYPE = restauri strutturali contemporanei OR ..../TYPE = corpo di fabbrica OR ..../TYPE = elemento strutturale OR ..../TYPE = connessione OR ..../TYPE = intervento di consolidamento

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ ST_ARCHEO_PART	█ E92_Spacetime_Volume	..../TYPE = areale di fonte letteraria diretta OR ..../TYPE = ipotesi ricostruttiva OR ..../TYPE = elemento di ipotesi ricostruttiva

The different mapping cases for a PA are also illustrated in Fig. 2. In particular, Fig. 2.a shows the basic mapping of a PA instance, Fig. 2.b shows the case in which it contains also evidences of man made objects and Fig. 2.c adds also the presence of some physical features.

Physical PA: basic mapping



Non Physical PA: basic mapping

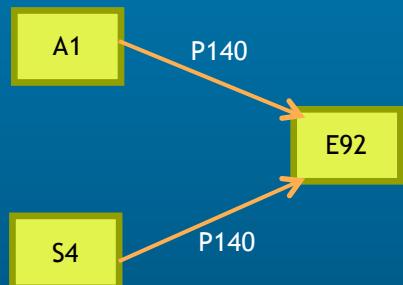


Figure 2.a

Physical PA with objects

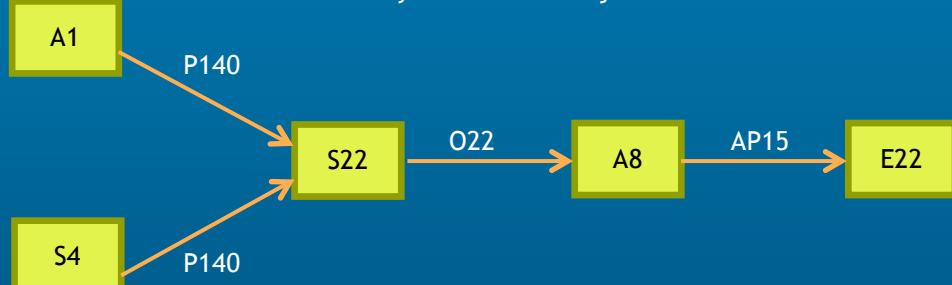


Figure 2.b

Physical PA with objects and features

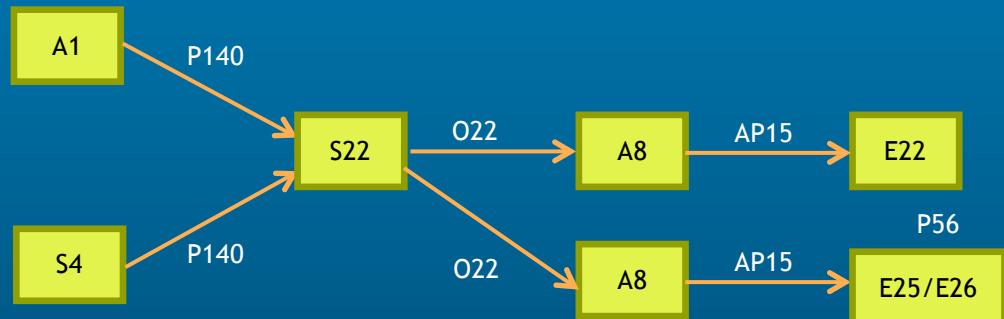


Figure 2.c

FIGURE 2

The attributes of the PA class are mapped as described in the matching table of the 3M mapping tool reported hereby. Here the case regarding the mapping towards **S22_Segment_of_Matter** is described. Notice that:

- three types classifies the instances of the PA class: ST_ARCHEO_PART_TYPE, ST_ARCHEO_PART_OBJECTIVE_DEFINITION and ST_ARCHEO_PART_SPECIFIC_DEFINITION; they have been mapped to **E55_Type** and for each lemma the mapping towards the corresponding lemma in the Getty vocabulary (Art & Architecture Thesaurus® Online, <http://www.getty.edu/research/tools/vocabularies/aat/index.html>) is reported.
- The link towards the instances of the **A1** and **S4** classes is represented by the property **P140i_was_attributed_by**.
- When it exists, the link towards instances of the class **E22/E25/E26** is realized through an instance of the class **A8**, as described above.
- The document and bibliography references are mapped with the same approach adopted for the OI class.
- The attributes describing the accessibility of the PA has been represented with the following property:

$$\begin{array}{c} \text{P44_has_condition} \rightarrow \text{E3_Condition_State} \rightarrow \text{rdf-schema\#label} \rightarrow \text{rdf-schema\#Literal} \\ \downarrow \\ \text{P2_has_type} \\ \downarrow \\ \text{E55_Type = "Accessibility"} \end{array}$$
- The mapping of the chronology of a PA is described in the following subsection (pag. 25)

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	
D  //FeatureCollection/ ST_ARCHEO_PART	 S22_Segment_of_Matter	NOT ..TYPE = ipotesi ricostruttiva AND NOT ..TYPE = elemento di ipotesi ricostruttiva AND NOT ..TYPE = discontinuità-degrado AND NOT ..TYPE = areale di fonte letteraria diretta	
P  GEOMETRY	 P161_has_spatial_projection		(see the mapping of the //Feat..)
R  GEOMETRY	 E53_Place		
P  ID	 P1_is_identified_by  E42_Identifier [P2_has_type] [E55_Type = "internal identifier"]  rdf-schema\#label		
R  ID	 rdf-schema\#Literal		
P  DESCRIPTION	 P3_has_note		
R  DESCRIPTION	 rdf-schema\#Literal		
P  TYPE_ID == ID	 P2_has_type		
R 	 E55_Type		

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
//FeatureCollection/ ST_ARCHEO_PART_TYPE		
P OBJECTIVE_DEFINITION_ID == ID	P2_has_type	
R //FeatureCollection/ ST_ARCHEO_PART_OBJECTIVE_DEFINITION	E55_Type [P2_has_type] [E55_Type = "object genre"]	
P SPECIFIC_DEFINITION_ID == ID	P2_has_type	
R //FeatureCollection/ ST_ARCHEO_PART_SPECIFIC_DEFINITION	E55_Type [P2_has_type] [E55_Type = "object definition"]	
P INFORMATION_SOURCE_ID == ID	P140i_was_attributed_by	NOT..//ACQUISITION_METHODOLOGY= scavo estensivo AND NOT..//ACQUISITION_METHODOLOGY= saggio di scavo
R //FeatureCollection/ST_INFORMATION_SOURCE	S4_Observation	
P INFORMATION_SOURCE_ID == ID	P140i_was_attributed_by	..//ACQUISITION_METHODOLOGY= scavo estensivo OR..//ACQUISITION_METHODOLOGY= saggio di scavo
R //FeatureCollection/ST_INFORMATION_SOURCE	A1_Excavation_Process_Unit	
P ID	O22_partly_or_completely_contains A8_Stratigraphic_Unit AP15_is_or_contains_remains_of	..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 1OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 2OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 3OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 4OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 7OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 8OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 9OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 13 OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 14 OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 15 OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 29 OR ..//TYPE = segmento AND..//OBJECTIVE_DEFINITION_ID = 30 OR ..//TYPE = unità funzionale OR ..//TYPE = partizione funzionale OR ..//TYPE = partizione cronologica OR ..//TYPE = elemento con valenza topografica OR ..//TYPE = restauri strutturali contemporanei OR ..//TYPE = corpo di fabbrica OR ..//TYPE = elemento strutturale OR ..//TYPE = connessione

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
R ID	E22_Man-Made_Object	OR../TYPE = intervento di consolidamento
P ST_PHASE_ID == ID	P92i_was_brought_into_existence_by	../CRONOLOGY_TYPE_ID = 1 OR../CRONOLOGY_TYPE_ID = 4 (CRONOLOGY_TYPE = cronologia di..)
R //FeatureCollection/ST_PHASE	E63_Beginning_of_Existence	
P ST_PHASE_ID == ID	P93i_was_taken_out_of_existence_by	../CRONOLOGY_TYPE_ID = 7 (CRONOLOGY_TYPE = cronologia di..)
R //FeatureCollection/ST_PHASE	E64_End_of_Existence	
P ST_PHASE_ID == ID	P44_has_condition	../CRONOLOGY_TYPE_ID = 2 OR../CRONOLOGY_TYPE_ID = 5 (CRONOLOGY_TYPE = cronologia de..)
R //FeatureCollection/ST_PHASE	E3_Condition_State	
P ID == ARCHAEO_PART_ID //FeatureCollection/ST_ARCHAEO_PART_NAME NAME	P1_is_identified_by E35_Title rdf-schema#label	
R NAME	rdf-schema#Literal	
P KNOWLEDGE_ACCESSIBILITY_ID == ID //FeatureCollection/ST_KNOWLEDGE_ACCESSIBILITY NAME_EN	P44_has_condition E3_Condition_State [P2_has_type] [E55_Type = "Accessibility"] rdf-schema#label	
R NAME_EN	rdf-schema#Literal_en	
P ST_PHASE_ID == ID	P44_has_condition	../CRONOLOGY_TYPE_ID = 6 (CRONOLOGY_TYPE = cronologia no..)

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	
R  //FeatureCollection/ST_PHASE	 → E3_Condition_State [rdf-schema#label] [rdf-schema#Literal = "undetermined"]		
P  ID == ST_ARCHEO_PART_ID	 ↓ P70i_is_documented_in		
R  //FeatureCollection/ST_ARCHEO_PART_DOCUMENT	 E31_Document		
P  START_YEAR	 ↓ P160_has_temporal_projection		(Calculated from ST_PHASE S..)
R  START_YEAR	 E52_Time-Span		
P  ID	 ↓ O22_partly_or_completely_contains  A8_Stratigraphic_Unit  ↓ AP15_is_or_contains_remains_of	../OBJECTIVE_DEFINITION_ID = 20 OR ../OBJECTIVE_DEFINITION_ID = 22	
R  ID	 → E25_Man-Made_Feature[S22-E25-1] [P2_has_type] [E55_Type = "artificial interface"]		
P  ID	 ↓ O22_partly_or_completely_contains  A8_Stratigraphic_Unit  ↓ AP15_is_or_contains_remains_of	../OBJECT_DEFINITION_ID = 11 OR ../OBJECT_DEFINITION_ID = 21 OR ../OBJECT_DEFINITION_ID = 23	
R  ID	 → E26_Physical_Feature[S22-E26-1] [P2_has_type] [E55_Type = "interface"]		
P  OPAC_SBN_RECORD_ID == ID	 ↓ P67i_is_referred_to_by		
R  //FeatureCollection/ST_OPAC_SBN_RECORD	 E73_Information_Object		

When the PA instance contains information that can be referred to a persistent physical item with a relatively stable form, an associated object is generated as instance of the **E22_Man_Made_Object** class that is linked to the corresponding instance of the **S22** class that has been created starting from the same PA instance.

In the matching table of the 3M mapping tool reported hereby also this mapping is described.

Notice that:

- The building techniques, when it is necessary to describe them, are represented by the following property:
 $P31i_was_modified_by \rightarrow E11_Modification \rightarrow P33_used_specific_technique \rightarrow E29_Design_or_Procedure$
 For the mapping of the class **E29_Design_or_Procedure** see the specific subsection below.
- Finally, when the PA has some additional features represented as instances of the class **E25** or **E26** they are linked to the object through the property **E56_bears_feature**.
- The mapping of the chronology of the object is described in the following subsection (pag. 25)

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D  //FeatureCollection/ ST_ARCHEO_PART	 E22_Man-Made_Object	$\text{..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 1$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 2$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 3$ $\text{OR ..}/\text{TYPE} = \text{segmento OR..}/\text{OBJECTIVE_DEFINITION_ID} = 4$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 7$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 8$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 9$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 13$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 14$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 15$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 29$ $\text{OR ..}/\text{TYPE} = \text{segmento AND..}/\text{OBJECTIVE_DEFINITION_ID} = 30$ $\text{OR ..}/\text{TYPE} = \text{unità funzionale}$ $\text{OR ..}/\text{TYPE} = \text{partizione funzionale}$ $\text{OR ..}/\text{TYPE} = \text{partizione cronologica}$ $\text{OR ..}/\text{TYPE} = \text{elemento con valenza topografica}$ $\text{OR ..}/\text{TYPE} = \text{restauri strutturali contemporanei}$ $\text{OR ..}/\text{TYPE} = \text{corpo di fabbrica}$ $\text{OR ..}/\text{TYPE} = \text{elemento strutturale}$ $\text{OR ..}/\text{TYPE} = \text{connessione}$ $\text{OR ..}/\text{TYPE} = \text{intervento di consolidamento}$
P  ST_PHASE_ID == ID	 P108i_was_produced_by	$\text{..}/\text{CRONOLOGY_TYPE_ID} = 1$ $\text{OR ..}/\text{CRONOLOGY_TYPE_ID} = 4$
R  //FeatureCollection/ ST_PHASE	 E12_Production	
P  ST_PHASE_ID == ID	 P44_has_condition	$\text{..}/\text{CRONOLOGY_TYPE_ID} = 2$ $\text{OR ..}/\text{CRONOLOGY_TYPE_ID} = 5$
R  //FeatureCollection/ ST_PHASE	 E3_Condition_State	
P  ST_PHASE_ID == ID	 P31i_was_modified_by	$\text{..}/\text{CRONOLOGY_TYPE} = 3$
R  //FeatureCollection/ ST_PHASE	 E11_Modification [P2_has_type] [E55_Type = "Renovation"]	
P  ST_PHASE_ID == ID	 P44_has_condition	$\text{..}/\text{CRONOLOGY_TYPE} = 6$

	ST_PHASE_ID == ID			
R	//FeatureCollection/ ST_PHASE	E3_Condition_State [rdf-schema#label] [rdf-schema#Literal = "undetermined"]		
P	ST_PHASE_ID == ID	P13i_was_destroyed_by	..//CRONOLOGY_TYPE = 7	
R	//FeatureCollection/ ST_PHASE	E6_Destruction		
P	ID == ARCHEO_PART_ID //FeatureCollection/ ST_ARCHEO_PART_ST_ BUILDING_TECHNIQUE BUILDING_TECHNIQUE_ID == ID	P31i_was_modified_by E11_Modification P33_used_specific_technique		
R	//FeatureCollection/ ST_BUILDING_TECHNIQUE	E29_Design_or_Procedure		
P	ID	P56_bears_feature	..//OBJECTIVE_DEFINITION_ID =22	
R	ID	E25_Man-Made_Feature [S22-E25-1]		
P	ID	P56_bears_feature	..//OBJECTIVE_DEFINITION_ID =23	
R	ID	E26_Physical_Feature [S22-E26-1]		

When the PA instance does not represent a physical observation, but is used instead to represent a hypothesis of reconstruction or other piece of information produced by a process just based on archive sources analysis, an instance of the **E92_Spacetime_Volume** class is generated. The mapping of its properties is the similar to the mapping described above for the **S22** class. The only differences are:

- For the chronology description we have used the property **P160** as follows:
P160_has_temporal_projection → E52_Time-Span
using a sequence **P2_has_type → E55_Type = “dating type”** for distinguish the different cases.
- There is no choice of linking an instance of the **E22_Man_Made_Object** class.

Mapping of the chronology of the class Archaeological Partition

The chronology of a PA is represented in part as properties of **S22** and in part by means of the properties of the class **E22** when the representation of the PA instance is realized by linking one instance of **S22** to an instance of **E22**. In particular, in **S22** we have the following properties:

- the beginning of existence:
P92i_was_brought_into_existence_by → **E63_Beginning_of_Existence**
- the end of existence:
P93i_was_taken_out_of_existence_by → **E64_End_of_Existence**
- the existence/use period through the property:
P44_has_condition → **E3_Condition_State**
- the whole period of time referable to the S22 instance:
P160_has_temporal_projection → **E52_Time-Span**

In **E22** instead we have these other properties:

- the production:
P108i_was_produced_by → **E12_Production**
- the modification:
P31i_was_modified_by → **E11_Modification**
- the destruction:
P13i_was_destroyed_by → **E6_Destruction**

We report hereby the matching table of the 3M mapping tool describing the mapping for the generation of the instance of the classes used above: **E63**, **E64**, **E3**, **E52**, **E12**, **E11** and **E6**

E63_Beginning_of_Existence

SOURCE		TARGET CONSTANT EXPRESSION	IF RULE	
D	//FeatureCollection/ST_PHASE	E63_Beginning_of_Existence	..//CHRONOLOGY_TYPE_ID = 1 OR ..//CHRONOLOGY_TYPE_ID =4	(cronologia di impianto/fondazi..)
P	↓ START_YEAR	↓ P4_has_time-span		
R	START_YEAR	E52_Time-Span		
P	↓ START_PERIOD_ID == ID	↓ P116_starts	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID	
R	//FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period		
P	↓ END_PERIOD_ID == ID	↓ P115_finishes	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID	
R	//FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period		
P	↓ DATING_METHOD_ID == ID	↓ P2_has_type		
R	//FeatureCollection/ST_DATING_METHOD	E55_Type [P2_has_type] [E55_Type = "Dating method"]		
P	↓ CRONOLOGY_TYPE_ID == ID	↓ P2_has_type		
R		E55_Type		

P	//FeatureCollection/ ST_CHRONOLOGY_TYPE ↓ START_PERIOD_ID == ID	[P2_has_type] [E55_Type = "Event type"] ↓ P117_occurs_during	..../START_PERIOD_ID =/END_PERIOD_ID
R	//FeatureCollection/ ST_NAMED_YEAR_RANGE	↓ E4_Period	

E64_End_of_Existence

	SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D	//FeatureCollection/ST_PHASE	↓ E64_End_of_Existence	..../CHRONOLOGY_TYPE_ID = 7 (cronologia di abbandono/destru...)
P	↓ START_YEAR	↓ P4_has_time-span	
R	↓ START_YEAR	↓ E52_Time-Span	
P	↓ START_PERIOD_ID == ID	↓ P116_starts	NOT ..../START_PERIOD_ID =/END_PERIOD_ID
R	//FeatureCollection/ ST_NAMED_YEAR_RANGE	↓ E4_Period	
P	↓ END_PERIOD_ID == ID	↓ P115.finishes	NOT ..../START_PERIOD_ID =/END_PERIOD_ID
R	//FeatureCollection/ ST_NAMED_YEAR_RANGE	↓ E4_Period	
P	↓ DATING_METHOD_ID == ID	↓ P2_has_type	
R	//FeatureCollection/ DATING_METHOD	↓ E55_Type [P2_has_type] [E55_Type = "Dating method"]	
P	↓ CRONOLOGY_TYPE_ID == ID	↓ P2_has_type	
R	//FeatureCollection/ ST_CRONOLOGY_TYPE	↓ E55_Type [P2_has_type] [E55_Type = "Event type"]	
P	↓ START_PERIOD_ID == ID	↓ P117_occurs_during	..../START_PERIOD_ID =/END_PERIOD_ID
R	//FeatureCollection/ ST_NAMED_YEAR_RANGE	↓ E4_Period	

E3_Condition_State

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ST_PHASE	E3_Condition_State	..//CHRONOLOGY_TYPE_ID = 2 OR ..//CHRONOLOGY_TYPE_ID = 5 OR ..//CHRONOLOGY_TYPE_ID = 6 (Cronologia di vita/uso or Cron..)
P START_YEAR	P4_has_time-span	
R START_YEAR	E52_Time-Span	
P START_PERIOD_ID == ID	P116_starts	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID
R //FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period	
P END_PERIOD_ID == ID	P115_finishes	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID
R //FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period	
P DATING_METHOD_ID == ID	P2_has_type	
R //FeatureCollection/DATING_METHOD	E55_Type [P2_has_type] [E55_Type = "Dating method"]	
P CRONOLOGY_TYPE_ID == ID	P2_has_type	
R //FeatureCollection/ST_CRONOLOGY_TYPE	E55_Type [P2_has_type] [E55_Type = "Event type"]	
P START_PERIOD_ID == ID	P117_occurs_during	
R //FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period	..//START_PERIOD_ID = ..//END_PERIOD_ID

E52_Time-Span

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ST_PHASE	E52_Time-Span	
P START_YEAR	P82a_begin_of_the_begin	
R START_YEAR	XMLSchema#dateTime	
P START_YEAR	P81a_end_of_the_begin	
R START_YEAR	XMLSchema#dateTime	
P END_YEAR	P81b_begin_of_the_end	
R END_YEAR	XMLSchema#dateTime	
P END_YEAR	P82b_end_of_the_end	
R END_YEAR	XMLSchema#dateTime	
P START_PERIOD_ID == IS	P4i_is_time-span_of	
R //FeatureCollection/ ST_NAMED_YEAR_RANGE	E4_Period [P2_has_type] [E55_Type = "start"]	
P END_PERIOD_ID == ID	P4i_is_time-span_of	
R //FeatureCollection/ ST_NAMED_YEAR_RANGE	E4_Period [P2_has_type] [E55_Type = "end"]	
P DATING_METHOD_ID == ID	P2_has_type	
R //FeatureCollection/ ST_DATING_METHOD	E55_Type [P2_has_type] [E55_Type = "Dating method"]	

E12_Production (E11_Modification and E6_Destruction with different IF RULE)

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D  //FeatureCollection/ST_PHASE	 E12_Production	..//CHRONOLOGY_TYPE_ID = 1 OR ..//CHRONOLOGY_TYPE_ID =4
P  START_YEAR	 P4_has_time-span	
R  START_YEAR	 E52_Time-Span	
P  START_PERIOD_ID == ID	 P116_starts	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID
R  //FeatureCollection/ ST_NAMED_YEAR_RANGE	 E4_Period	
P  END_PERIOD_ID == ID	 P115.finishes	NOT ..//START_PERIOD_ID = ..//END_PERIOD_ID
R  //FeatureCollection/ ST_NAMED_YEAR_RANGE	 E4_Period	
P  DATING_METHOD_ID == ID	 P2_has_type	
R  //FeatureCollection/ ST_DATING_METHOD	 E55_Type [P2_has_type] [E55_Type = "Dating method"]	
P  CRONOLOGY_TYPE_ID == ID	 P2_has_type	
R  //FeatureCollection/ ST_CRONOLOGY_TYPE	 E55_Type [P2_has_type] [E55_Type = "Event type"]	
P  START_PERIOD_ID == ID	 P117_occurs_during	..//START_PERIOD_ID = ..//END_PERIOD_ID
R  //FeatureCollection/ ST_NAMED_YEAR_RANGE	 E4_Period	

Mapping of the building techniques of the class Archaeological Partition

The building techniques of a PA are represented as properties of the class **E22** when the representation of the PA instance is realized by linking one instance of **S22** to an instance of **E22**. In particular, in **E22** we have the following properties:

P31i_was_modified_by → **E11_Modification** → **P33_used_specific_technique** →
E29_Design_or_Procedure.

For the **E29_Design_or_Procedure** class we propose the mapping described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The chronology of the building techniques has been represented by means of the properties:
P92i_was_brought_into_existence_by →
E63_Beginning_of_Existence → **P4_has_time-span** → **E52_Time-Span**
 ↓
P117_occurs_during → **E4_Period**
P92i_was_taken_out_of_existence_by →
E64_End_of_Existence → **P4_has_time-span** → **E52_Time-Span**
 ↓
P117_occurs_during → **E4_Period**
- The material characterizing the building techniques has been represented by means of the properties:
P68_foresees_use_of → **E57_Material**
 where the mapping of **E57_Material** is similar to those applied for the vocabularies.

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE	COMMENTS
D			
P	 ↓ NAME	 ↓ ↓ 	
R	 NAME		
P	 ↓ ID == BUILDING_TECHNIQUE_ID ↓ 		
R			
P	 ↓ START_YEAR	 ↓ ↓ 	
R	 START_YEAR		
P	 ↓ END_YEAR	 ↓ 	

		P4_has_time-span	
R	END_YEAR	E52_Time-Span (Description...)	
P	START_PERIOD_ID == ID	P92i_was_brought_into_existence_by E63_Beginning_of_Existence[E63-1] P117_occurs_during	
R	//FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period	
P	END_PERIOD_ID == ID	P93i_was_taken_out_of_existence_by E64_End_of_Existence[E64-1] P117_occurs_during	
R	//FeatureCollection/ST_NAMED_YEAR_RANGE	E4_Period	

Mapping of the class Archaeological Unit (UA)

The instances of the UA class has been mapped to instances of the class **E24_Physical_Man_Made_Thing** and the mapping of its properties is described in the matching table of the 3M mapping tool reported hereby.

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ST_ARCHEO_UNIT	E24_Physical_Man-Made_Thing	
P SITAR_CODE	P48_has_preferred_identifier E42_Identifier [P2_has_type] [E55_Type = "internal code"] rdf-schema#label	
R SITAR_CODE	rdf-schema#Literal	
P ID == ARCHAEO_UNIT_ID	P1_is_identified_by E35_Title rdf-schema#label	
R //FeatureCollection/ST_ARCHEO_UNIT_NAME	rdf-schema#Literal	
P INFORMATION_SOURCE_ID == ID	P140i_was_attributed_by	
R //FeatureCollection/ST_INFORMATION_SOURCE	E13_Attribute_Assignment	
P ID == ARCHAEO_UNIT_ID //FeatureCollection/ST_ARCHEO_PART_ARCHEO_UNIT ARCHAEO_PART_ID == ID	P46_is_composed_of	NOT ..TYPE = areale di fonte letteraria diretta AND NOT ..TYPE = ipotesi ricostruttiva AND NOT ..TYPE = elemento di ipotesi ricostruttiva
R //FeatureCollection/ST_ARCHEO_PART	E18_Physical_Thing	
P ID == ARCHAEO_UNIT_ID //FeatureCollection/ST_ARCHEO_PART_ARCHEO_UNIT ARCHAEO_PART_ID == ID	P10i_contains	..TYPE = areale di fonte letteraria diretta OR ..TYPE = ipotesi ricostruttiva OR ..TYPE = elemento di ipotesi ricostruttiva
R //FeatureCollection/ST_ARCHEO_PART	E92_Spacetime_Volume	

Mapping of the class Stratigraphic Unit (SU)

The instances of the SU class, that is still being implemented within the SITAR data model at the time of redaction of this document, and however is not included in the data provided by SSCol within this project, has been mapped to instances of the class *A2_Stratigraphic_Volume_Unit* or *A3_Stratigraphic_Interface* and the mapping of its properties is described in the matching table of the 3M mapping tool reported hereby.

Notice that:

- The property that links an instance of the SU class to the corresponding instance of OI class (mapped onto a *A1_Excavation_Process*) is defined in the OI mapping wi the property *AP5_Cut* (see page 14).

A2_Stratigraphic_Volume_Unit

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
D //FeatureCollection/ ST_STRATIGRAPHIC_UNIT	A2_Stratigraphic_Volume_Unit	../OBJECTIVE_DEFINITION_ID =OPERA OR ../OBJECTIVE_DEFINITION_ID =STRATO
P ID	P1_is_identified_by E42_Identifier [P2_has_type] [E55_Type = "internal identifier"] en rdf-schema#label	
R ID	rdf-schema#Literal	
P SPECIFIC_DEFINITION	P3_has_note	
R SPECIFIC_DEFINITION	rdf-schema#Literal it	
P GEOMETRY	P161_has_spatial_projection	
R GEOMETRY	E53_Place	
P ID == STRATIGRAPHIC_UNIT_ID //FeatureCollection/ ST_STRATIGRAPHIC_UNIT_RELATIONED_ARCHEO_PART ARCHEO_PART_ID	O22i_is_part_of	
R ARCHEO_PART_ID	S22_Segment_of_Matter	
P NUMBER	P48_has_preferred_identifier E42_Identifier rdf-schema#label	
R NUMBER	rdf-schema#Literal	

SOURCE		TARGET CONSTANT EXPRESSION	IF RULE
P	↓ OBJECTIVE_DEFINITION_ID	↓ P2_has_type E55_Type ↓ rdf-schema#label	
R	↓ OBJECTIVE_DEFINITION_ID	↓ rdf-schema#Literal	

A3_Stratigraphic_Volume_Unit

SOURCE		TARGET CONSTANT EXPRESSION	IF RULE
D	↓ //FeatureCollection/ ST_STRATIGRAPHIC_UNIT	↓ A3_Stratigraphic_Interface	..//OBJECTIVE_DEFINITION_ID =TAGLIO
P	↓ ID	↓ P1_is_identified_by E42_Identifier [P2_has_type] [E55_Type = "internal identifier"] en ↓ rdf-schema#label	
R	↓ ID	↓ rdf-schema#Literal	
P	↓ SPECIFIC_DEFINITION	↓ P3_has_note	
R	↓ SPECIFIC_DEFINITION	↓ rdf-schema#Literal it	
P	↓ GEOMETRY	↓ P161_has_spatial_projection	
R	↓ GEOMETRY	↓ E53_Place	
P	↓ ID == STRATIGRAPHIC_UNIT_ID //FeatureCollection/ ST_STRATIGRAPHIC_UNIT_RELATION_ARCHEO_PART ↓ ARCHEO_PART_ID	↓ O22i_is_part_of	
R	↓ ARCHEO_PART_ID	↓ S22_Segment_of_Matter	
P	↓ NUMBER	↓ P48_has_preferred_identifier E42_Identifier ↓ rdf-schema#label	
R	↓ NUMBER	↓ rdf-schema#Literal	
P	↓ OBJECTIVE_DEFINITION_ID	↓ P2_has_type	

SOURCE	TARGET CONSTANT EXPRESSION	IF RULE
R OBJECTIVE_DEFINITION_ID	E55_Type ↓ rdf-schema#label rdf-schema#Literal	

II Section RDF file production

After the definition of the semantic mapping described in the previous section, we have produced the RDF files following this approach:

- A set of Java beans with JPA (Java Persistence API) annotations (called *Entity Beans*) have been produced which provide access to the SITAR database.
- A batch program has been developed which scans the entity beans representing the database content and applies the mapping rules presented in the previous section, in order to obtain an RDF file compliant with the CIDOC-CRM model.
- For the RDF generation, the program uses the Apache Jena library, an API for creating and reading Resource Description Framework (RDF) graphs. In particular, triples can be serialized using popular formats such as RDF/XML or Turtle. As regards to the XML format, the library make extremely easy to switch between the RDF/XML serialization and its XML/ABBREV variant. The second one provides a more compact and user-friendly output.
- The produced RDF/XML has been loaded into Sesame, which is a Java framework for processing and handling RDF data, in order to check the syntactic and formal correctness of the produced file.

In the following, we produce some extracts of the generated RDF file.

Mapping of the vocabularies

As explained in the previous section, each vocabulary is mapped into an instance of the class *E55 Type*. The corresponding tag encapsulates the label containing the Italian value and the relation *L54 is same-as* towards a SKOS Concept with a preferred label in English and some matches with Getty terms. Notice that many different matches can be defined towards Getty terms each one with a particular kind of match relations. Besides to the *relatedMatch* and *broadMatch* reported in the example, other possible relations are: *exactMatch*, *narrowMatch* and *closeMatch*.

```
<crm:E55_Type rdf:about="http://archaeositarproject.it/st_chronology_type_#1">
    <skos:broadMatch>
        <skos:Concept rdf:about="http://vocab.getty.edu/aat/300054714"/>
    </skos:broadMatch>
    <skos:broadMatch>
        <skos:Concept rdf:about="http://vocab.getty.edu/aat/300393212"/>
    </skos:broadMatch>
    <skos:broadMatch>
        <skos:Concept rdf:about="http://vocab.getty.edu/aat/300393213"/>
    </skos:broadMatch>
    <rdfs:label xml:lang="eng">establishment/foundation dating</rdfs:label>
    <rdfs:label xml:lang="ita">cronologia di impianto/fondazione</rdfs:label>
</crm:E55_Type>
```

Each vocabulary term is an RDF node with its own URL, such that it can be reused and linked inside other nodes simply by using a reference of the type:

```
<crm:P2_has_type
    rdf:resource="http http://archaeositarproject.it/st_chronology_type_#1"/>
```

Mapping of the location attributes

This section illustrates a portion of RDF regarding a generic Place with a contained altimetric point. As you can notice, the *E16 Measurement* object is encapsulated inside the place in order to represent the geo-reference method; the geometry is represented by a literal value in GML format, and the altimetric point is also encapsulated inside the relation *P89i contains*.

```

<crm:E53_Place>
  <crm:P168_is_defined_by rdf:parseType="Literal">
    <gml:MultiPolygon>
      [...omissis...]
    </gml:MultiPolygon>
  </crm:P168_is_defined_by>

  <crm:P2_has_type
    rdf:resource="http://archeositarproject.it/st_geo_reference_accuracy_#1"/>

  <crm:P2_has_type
    rdf:resource="http://archeositarproject.it/st_representation_accuracy_#1"/>

  <crm:P39i_was_measured_by>
    <crm:E16_Measurement>
      <crm:P32_used_general_technique
        rdf:resource="http://archeositarproject.it/st_geo_reference_method_#2"/>
    </crm:E16_Measurement>
  </crm:P39i_was_measured_by>

  <crm:P89i_contains>
    <crm:E53_Place rdf:about="http://archeositarproject.it/st_altimetric_point_#13617">
      <crm:P168_is_defined_by rdf:parseType="Literal">
        <gml:Point>
          <gml:coordinates>2313833.699669085,4640560.241467237,46.47</gml:coordinates>
        </gml:Point>
      </crm:P168_is_defined_by>
    </crm:E53_Place>
  </crm:P89i_contains>
</crm:E53_Place>

```

Each Place node is a RDF blank node (i.e., no URL is specified for it), because it is not shared between different nodes and is directly encapsulated inside the owner object.

Mapping of the temporal attributes

This section illustrates an example of *E52 Time-Span* representing an interval of two years, the one representing a period of two dates is mapped in a similar way. Notice that the literal representing each year is annotated with the XML type *gYear*, while in case of two complete dates it will be annotated with the XML type *dateTime*.

```

<crm:E52_Time-Span>
  <crm:P82a_begin_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
    41
  </crm:P82a_begin_of_the_begin>
  <crm:P81a_end_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
    41
  </crm:P81a_end_of_the_begin>
  <crm:P81b_begin_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
    54
  </crm:P81b_begin_of_the_end>
  <crm:P82b_end_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
    54
  </crm:P82b_end_of_the_end>
</crm:E52_Time-Span>

```

Conversely, a Named Year Range is mapped to an instance of *E4 Period* as follows:

```

<crm:E4_Period rdf:about="http://archeositarproject.it/st_named_year_range_#22">
  <crm:P1_is_identified_by>
    <crm:E49_Time_Appellation>
      <rdfs:label xml:lang="ita">Età contemporanea</rdfs:label>
    </crm:E49_Time_Appellation>
  </crm:P1_is_identified_by>

```

```
<crmdig:L54_is_same-as>
  <skos:Concept>
    <skos:prefLabel>Contemporary Age</skos:prefLabel>
    <skos:broadMatch>
      <skos:Concept rdf:about="http://vocab.getty.edu/aat/300264736"/>
    </skos:broadMatch>
  </skos:Concept>
</crmdig:L54_is_same-as>

<crm:P4_has_time-span>
  <crm:E52_Time-Span>
    <crm:P82a_begin_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
      1815
    </crm:P82a_begin_of_the_begin>
    <crm:P81a_end_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
      1815
    </crm:P81a_end_of_the_begin>
    <crm:P81b_begin_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
      2013
    </crm:P81b_begin_of_the_end>
    <crm:P82b_end_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
      2013
    </crm:P82b_end_of_the_end>
  </crm:E52_Time-Span>
</crm:P4_has_time-span>
</crm:E4_Period>
```

Mapping of bibliography references

This section illustrates the mapping of a bibliography reference to an instance of *E73 Information Object*. Notice that the *E42 Identifier* has a type, in the specific case is ISSN code. As regards to the *E65 Creation* object, the same instance tag encapsulates both the author and the publication date.

```
<crm:E73_Information_Object rdf:about="http://archeositarproject.it/st_opac_sbn_record_#63">
  <crm:P1_is_identified_by>
    <crm:E42_Identifier>
      <crm:P2_has_type>
        <crm:E55_Type>
          <rdfs:label>ISSN code</rdfs:label>
        </crm:E55_Type>
      </crm:P2_has_type>
      <rdfs:label>18283179</rdfs:label>
    </crm:E42_Identifier>
  </crm:P1_is_identified_by>

  <crm:P102_has_title>
    <crm:E35_Title>
      <rdfs:label>
        Un nuovo settore degli Horti Lamiani
      </rdfs:label>
    </crm:E35_Title>
  </crm:P102_has_title>

  <crm:P94i_was_created_by>
    <crm:E65_Creation>
      <crm:P14_carried_out_by>
        <crm:E21_Person rdf:about="http://archeositarproject.it/st_person_#780896597">
          <crm:P1_is_identified_by>
            <crm:E82_Actor_Appellation>
              <rdfs:label>
                Salvo Barrano, Donato Colli, Maria Teresa Martines
              </rdfs:label>
            </crm:E82_Actor_Appellation>
          </crm:P1_is_identified_by>
```

```
<crm:P2_has_type>
  <crm:E55_Type>
    <rdfs:label>author</rdfs:label>
  </crm:E55_Type>
</crm:P2_has_type>
</crm:E21_Person>
</crm:P14_carried_out_by>
<crm:P4_has_time-span>
  <crm:E52_Time-Span>
    <rdf:value rdf:datatype="http://www.w3.org/2001/XMLSchema#dateTime">
      2007-07-30T22:00:00Z
    </rdf:value>
  </crm:E52_Time-Span>
</crm:P4_has_time-span>
</crm:E65_Creation>
</crm:P94i_was_created_by>
</crm:E73_Information_Object>
```

Mapping of document references

The section illustrates the mapping of a document reference towards an instance of *E31 Document*.

```
<crm:E31_Document
  rdf:about="http://archeositarproject.it/st_information_source_document_#33588">
<crm:P102_has_title>
  <crm:E35_Title>
    <rdfs:label xml:lang="ita">Giornale degli scavi</rdfs:label>
  </crm:E35_Title>
</crm:P102_has_title>
<crm:P3_has_note>
  Nota presente in Giornale degli scavi, a. 1893, p. 232
</crm:P3_has_note>
<crm:P2_has_type
  rdf:resource="http://archeositarproject.it/st_info_source_doc_type_#4"/>
<crm:P104_is_subject_to>
  <crm:E30_Right>
    <crm:P1_is_identified_by
      rdf:resource="http://archeositarproject.it/st_license_#1"/>
  </crm:E30_Right>
</crm:P104_is_subject_to>
</crm:E31_Document>
```

Mapping of the class Information Source

The section illustrates an example of mapping of an information source towards one of the classes mentioned in the Section I. In particular, we consider the mapping towards an A1 Excavation Process Unit, since the other mappings are very similar to this one, and some properties previously presented are collapsed in order to improve readability.

```
<archeo:A1_Excavation_Process_Unit
  rdf:about="http://archeositarproject.it/st_info_source_#3229">

<crm:P48_has_preferred_identifier>
  <crm:E42_Identifier>
    <crm:P2_has_type>
      <crm:E55_Type>
        <rdfs:label>internal code</rdfs:label>
      </crm:E55_Type>
    </crm:P2_has_type>
    <rdfs:label>2925</rdfs:label>
  </crm:E42_Identifier>
</crm:P48_has_preferred_identifier>

<crm:P1_is_identified_by>
```

```
<crm:E42_Identifier>
  <rdfs:label>3229_2</rdfs:label>
  <crm:P2_has_type>
    <crm:E55_Type>
      <rdfs:label>internal identifier</rdfs:label>
    </crm:E55_Type>
  </crm:P2_has_type>
</crm:E42_Identifier>
</crm:P1_is_identified_by>

<crm:P2_has_type
  rdf:resource="http://archeositarproject.it/st_acquisition_methodology_#2"/>

<crm:P4_has_time-span>
  <crm:E52_Time-Span>
    [...omissis...]
  </crm:E52_Time-Span>
</crm:P4_has_time-span>

<crm:E41_Appellation>
  <rdfs:label>Chiesa di S. Eufemia</rdfs:label>
</crm:E41_Appellation>

<crm:P67i_is_referred_to_by>
  <crm:E73_Information_Object
    rdf:about="http://archeositarproject.it/st_opac_sbn_record_#63">
    [...omissis...]
  </crm:E73_Information_Object>

<crm:P01i_is_domain_of>
  <crm:PC14_carried_out_by>
    <crm:P02_has_range>
      <crm:E40_Legal_Body
        rdf:about="http://archaeositarproject.it/st_person_#2814_2043017427">
        <crm:P1_is_identified_by>
          <crm:E82_Actor_Appellation>
            <rdfs:label>POLIS</rdfs:label>
          </crm:E82_Actor_Appellation>
        </crm:P1_is_identified_by>
      </crm:E40_Legal_Body>
    </crm:P02_has_range>
    <crm:P14.1_in_the_role_of>
      <crm:E55_Type>
        <rdfs:label>executor</rdfs:label>
      </crm:E55_Type>
    </crm:P14.1_in_the_role_of>
  </crm:PC14_carried_out_by>
</crm:P01i_is_domain_of>

<crm:P01i_is_domain_of>
  <crm:PC14_carried_out_by>
    <crm:P02_has_range>
      <crm:E21_Person
        rdf:about="http://archaeositarproject.it/st_person_#3031_-70279378">
        <crm:P1_is_identified_by>
          <crm:E82_Actor_Appellation>
            <rdfs:label>Daniele Putorti</rdfs:label>
          </crm:E82_Actor_Appellation>
        </crm:P1_is_identified_by>
      </crm:E21_Person>
    </crm:P02_has_range>
    <crm:P14.1_in_the_role_of>
      <crm:E55_Type>
        <rdfs:label>scientific equipe member</rdfs:label>
      </crm:E55_Type>
    </crm:P14.1_in_the_role_of>
```

```

    </crm:PC14_carried_out_by>
</crm:P01i_is_domain_of>

<archeo:AP3_excavated>
    <crm:E53_Place>
        [...omissis...]
    </crm:E53_Place>
</archeo:AP3_excavated>

<crm:P7_took_place_at>
    <crm:E53_Place>
        [...omissis...]
    </crm:E53_Place>
</crm:P7_took_place_at>

<crm:P3_has_note xml:lang="ita">
    Lavori per il potenziamento della ...
</crm:P3_has_note>

<crm:P70i_is_documented_in>
    <crm:E31_Documentrdf:about="http://archeositarproject.it/st_info_source_doc_#28031">
        [...omissis...]
    </crm:E31_Document>
</crm:P70i_is_documented_in>

</archeo:A1_Excavation_Process_Unit>

```

Mapping of the chronology of the class Archaeological Partition

The section illustrates how a chronology of an archaeological partition is mapped to the corresponding CIDOC-CRM class. Notice that in the example, we consider only one case, the *E63 Beginning of Existance* class, but the translation can be easily generalized for all other kind of chronologies, such as *E64 End of Existance*, *E3 Condition State*, *E52 Time Span* and *E12 Production*.

```

<crm:E63_Beginning_of_Existence
    rdf:about="http://archeositarproject.it/st_archaeo_part_phase_#6018_8153">
<crm:P4_has_time-span>
    <crm:E52_Time-Span>
        <crm:P82b_end_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
            400
        </crm:P82b_end_of_the_end>
        <crm:P81b_begin_of_the_end rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
            400
        </crm:P81b_begin_of_the_end>
        <crm:P81a_end_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
            201
        </crm:P81a_end_of_the_begin>
        <crm:P82a_begin_of_the_begin rdf:datatype="http://www.w3.org/2001/XMLSchema#gYear">
            201
        </crm:P82a_begin_of_the_begin>
    </crm:E52_Time-Span>
</crm:P4_has_time-span>
<crm:P116_starts rdf:resource="http://archeositarproject.it/st_named_year_range_#100"/>
<crm:P115_finishes rdf:resource="http://archeositarproject.it/st_named_year_range_#67"/>
<crm:P2_has_type rdf:resource="http://archeositarproject.it/st_chronology_type_#1"/>
<crm:P2_has_type rdf:resource="http://archeositarproject.it/st_dating_method_#2"/>
</crm:E63_Beginning_of_Existence>

```

Mapping of the building techniques of the class Archaeological Partition

This section illustrates the mapping of a building technique of an archaeological partition to the class *E29 Design or Procedure*.

```
<crm:E29_Design_or_Procedure
  rdf:about="http://archeositarproject.it/st_building_technique_#162">

<crm:P1_is_identified_by>
  <crm:E41_Appellation>
    <rdfs:label xml:lang="latin">opera laterizia [valore default]</rdfs:label>
  </crm:E41_Appellation>
</crm:P1_is_identified_by>

<crm:P68_forsees_use_of>
  <crm:E57_Material rdf:about="http://archeositarproject.it/st_material_#8">
    <rdfs:label xml:lang="ita">Malta</rdfs:label>
    <crmdig:L54_is_same-as>
      <skos:Concept>
        <skos:prefLabel>mortar (filler)</skos:prefLabel>
        <skos:exactMatch>
          <skos:Concept rdf:about="http://vocab.getty.edu/aat/300014741"/>
        </skos:exactMatch>
      </skos:Concept>
    </crmdig:L54_is_same-as>
  </crm:E57_Material>
</crm:P68_forsees_use_of>

<crm:P92i_was_brought_into_existence_by>
  <crm:E63_Beginning_of_Existence>
    [...omissis...]
  </crm:E63_Beginning_of_Existence>
</crm:P92i_was_brought_into_existence_by>

<crm:P93i_was_taken_out_of_existence_by>
  <crm:E64_End_of_Existence>
    [...omissis...]
  </crm:E64_End_of_Existence>
</crm:P93i_was_taken_out_of_existence_by>
</crm:E29_Design_or_Procedure>
```

Mapping of the class Archaeological Partition

This section illustrates the mapping of an archaeological partition to the corresponding CIDOC-CRM class. As done for information sources, only one case is illustrated, the mapping towards S22 *Segment of Matter*, since the other is very similar, while the translation related to previously defined objects are omitted for improving readability.

```
<sci:S22_Segment_of_Matter
  rdf:about="http://archeositarproject.it/st_archaeo_part_#8637">

<crm:P1_is_identified_by>
  <rdfs:label>8637</rdfs:label>
  <crm:E42_Identifier>
    <crm:P2_has_type>
      <crm:E55_Type>
        <rdfs:label>internal identifier</rdfs:label>
      </crm:E55_Type>
    </crm:P2_has_type>
  </crm:E42_Identifier>
</crm:P1_is_identified_by>

<crm:P48_has_preferred_identifier>
  <crm:E42_Identifier>
    <rdfs:label>831</rdfs:label>
    <crm:P2_has_type>
      <crm:E55_Type>
        <rdfs:label>internal code</rdfs:label>
      </crm:E55_Type>
    </crm:P2_has_type>
  </crm:E42_Identifier>
</crm:P48_has_preferred_identifier>
```

```
</crm:P2_has_type>
</crm:E42_Identifier>
</crm:P48_has_preferred_identifier>

<crm:P3_has_note>
  Strati di terra compatta ....
</crm:P3_has_note>

<crm:P161_has_spatial_projection>
  <crm:E53_Place>
    [...omissis...]
  </crm:E53_Place>
</crm:P161_has_spatial_projection>

<crm:P2_has_type
  rdf:resource="http://archeositarproject.it/st_archaeo_part_type_#3"/>

<crm:P2_has_type
  rdf:resource="http://archeositarproject.it/st_archaeo_part_specific_definition_#69"/>

<crm:P140i_was_attributed_by
  rdf:resource="http://archeositarproject.it/st_information_source_#2409_2"/>

<crm:P92i_was_brought_into_existence_by
  <crm:E63_Beginning_of_Existence
    rdf:about="http://archeositarproject.it/st_archaeo_part_phase_#12187_9485">
    [...omissis...]
  </crm:E63_Beginning_of_Existence>
</crm:P92i_was_brought_into_existence_by>

<crm:P93i_was_taken_out_of_existence_by
  <crm:E64_End_of_Existence
    rdf:about="http://archeositarproject.it/st_archaeo_part_phase_#12182_9469">
    [...omissis...]
  </crm:E64_End_of_Existence >
</crm:P93i_was_taken_out_of_existence_by >

<crm:P44_has_condition>
  <crm:E3_Condition_State
    rdf:about="http://archeositarproject.it/st_archaeo_part_phase_#8637_8111">
    [...omissis...]
  </crm:E3_Condition_State>
</:P44_has_condition>

<crm:P44_has_condition>
  <crm:E3_Condition_State>
    <rdfs:label xml:lang="eng">existent</rdfs:label>
    <crm:P2_has_type>
      <crm:E55_Type>
        <rdfs:label>accessibility</rdfs:label>
      </crm:E55_Type>
    </crm:P2_has_type>
  </crm:E3_Condition_State>
</crm:P44_has_condition>

<crm:P160_has_temporal_projection>
  <crm:E52_Time-Span>
    [...omissis...]
  </crm:E52_Time-Span>
</crm:P160_has_temporal_projection>

<sci:O22_partly_or_completely_contains>
  <archeo:A8_Stratigraphic_Unit>
    <archeo:AP3_excavated>
      <crm:E22_Man-Made_Object
        rdf:about="http://archeositarproject.it/archaeo_part_object_#8263">
```

```

<crm:P31i_was_modified_by>
  <crm:E11_Modification>
    <crm:P33_used_specific_technique
      rdf:resource="http://archeositarproject.it/st_building_technique_#136"/>
    </crm:E11_Modification>
  </crm:P31i_was_modified_by>
<crm:P56_bears_feature>
  <crm:E25_Man-Made_Feature
    rdf:about="http://archeositarproject.it/archaeo_part_feature_#13129">
    <crm:P2_has_type>
      <crm:E55_Type>
        <rdfs:label>artifical interface</rdfs:label>
      </crm:E55_Type>
    </crm:P2_has_type>
  </crm:E25_Man-Made_Feature>
  </crm:P56_bears_feature>
</crm:E22_Man-Made_Object>
</archeo:AP3_excavated>
</archeo:A8_Stratigraphic_Unit>
</sci:O22_partly_or_completely_contains>
</ sci:S22_Segment_of_Matter>

```

Mapping of the class Archaeological Unit

This section illustrates the translation of an archaeological unit to an instance of the class *E24 Physical Man Made Thing*.

```

<crm:E24_Physical_Man-Made_Thing
  rdf:about="http://archeositarproject.it/st_archaeo_unit_#43">

<crm:P48_has_preferred_identifier>
  <crm:E42_Identifier>
    <rdfs:label>43</rdfs:label>
  </crm:E42_Identifier>
</crm:P48_has_preferred_identifier>

<crm:P140i_was_attributed_by
  rdf:resource="http://archeositarproject.it/st_information_source_#4918"/>

<crm:P46_is_composed_of
  rdf:resource="http://archeositarproject.it/st_archaeo_part_#11470"/>
<crm:P46_is_composed_of
  rdf:resource="http://archeositarproject.it/st_archaeo_part_#9044"/>
</crm:E24_Physical_Man-Made_Thing>

```

Mapping of the class Stratigraphic Unit

This section illustrates the translation of a stratigraphic unit to an instance of the class *A2 Stratigraphic Volume Unit*. Notice that the translation to *A2 Stratigraphic Interface* is omitted because it is equivalent and can be easily generalized.

```

<archeo:A2_Stratigraphic_Volume_Unit
  rdf:about="http://archeositarproject.it/st_stratigraphic_unit_#1775">

<crm:P48_has_preferred_identifier>
  <crm:E42_Identifier>
    <rdfs:label>1127</rdfs:label>
  </crm:E42_Identifier>
</crm:P48_has_preferred_identifier>

<crm:P1_is_identified_by>
  <crm:E42_Identifier>
    <rdfs:label>1775</rdfs:label>
  </crm:E42_Identifier>
</crm:P1_is_identified_by>

```

```
<crm:P3_has_note>
  [...omissis...]
</crm:P3_has_note>

<sci:O22i_is_part_of>
  <sci:S22_Segment_of_Matter
    rdf:about="http://archeositarproject.it/st_archaeo_part#23"/>
</ sci:O22i_is_part_of>

</archeo:A2_Stratigraphic_Volume_Unit>
```

Appendix A

We show in this appendix the translations of the lemma of the SITAR vocabularies, together with the matching terms of the Getty repository.

The considered vocabularies are listed in the following table.

Vocabulary	Used as domain of	Mapped to
ST_ACQUISITION_METHODOLOGY	ST_INFORMATION_SOURCE.ACQUISITION_METHODOLOGY	E55_Type
ST_ARCHIVE_REFERENCE_TYPE	ST_ARCHIVE_REFERENCE.TYPE	E55_Type
ST_INFORMATION_SOURCE_DOCUMENT_TYPE	ST_INFORMATION_SOURCE_DOCUMENT.TYPE	E55_Type
ST_ARCHEAO_PART_TYPE	ST_ARCHEAO_PART.TYPE	E55_Type
ST_ARCHEAO_PART_DOCUMENT_TYPE	ST_ARCHEAO_PART_DOCUMENT.TYPE	E55_Type
ST_GEO_REFERENCE_ACCURACY	ST_INFORMATION_SOURCE.GEO_REFERENCE_ACCURACY ST_ARCHEAO_PART.GEO_REFERENCE_ACCURACY ST_STRATIGRAPHIC_UNIT.GEO_REFERENCE_ACCURACY	E55_Type
ST_GEO_REFERENCE_METHOD	ST_INFORMATION_SOURCE.GEO_REFERENCE_METHOD ST_ARCHEAO_PART.GEO_REFERENCE_METHOD ST_STRATIGRAPHIC_UNIT.GEO_REFERENCE_METHOD	E55_Type
ST_REPRESENTATION_ACCURACY	ST_INFORMATION_SOURCE.GEO_REPRESENTATION_ACCURACY ST_ARCHEAO_PART.GEO_REPRESENTATION_ACCURACY ST_STRATIGRAPHIC_UNIT.GEO_REPRESENTATION_ACCURACY	E55_Type
ST_ARCHEAO_PART_OBJECTIVE_DEFINITION	ST_ARCHEAO_PART_DOCUMENT.OBJECTIVE_DEFINITION	E55_Type
ST_ARCHEAO_PART_SPECIFIC_DEFINITION	ST_ARCHEAO_PART_DOCUMENT.SPECIFIC_DEFINITION	E55_Type
ST_DATING_METHOD	ST_PHASE.DATING_METHOD	E55_Type
ST_MATERIAL	ST_BUILDING_TECHNIQUE.MATERIAL	E55_Type
ST_CHRONOLOGY_TYPE	ST_PAHSE.DATING_METHOD	E55_Type
ST_NAMED_YEAR_RANGE	ST_PAHSE.*	E55_Type
ST KNOWLEDGE_ACCESSIBILITY	ST_ARCHEAO_PART.KNOWLEDGE_ACCESSIBILITY	E55_Type

ST_ACQUISITION_METHODODOLOGY

name_it	name_en	skos_relation	getty_name	getty_url
Scavo estensivo	extended excavation	exactMatch	excavation process	http://vocab.getty.edu/aat/300053702
Saggio di scavo	trench or sample excavation	broadMatch	excavation process	http://vocab.getty.edu/aat/300053702
Saggio di scavo	trench or sample excavation	broadMatch	trenches	http://vocab.getty.edu/aat/300008022
Restauri e consolidamenti	conservative intervention	broadMatch	restoration	http://vocab.getty.edu/aat/300053742
Restauri e consolidamenti	conservative intervention	broadMatch	renovation	http://vocab.getty.edu/aat/300077781
Ricerca di superficie	field surveying	broadMatch	field archaeology	http://vocab.getty.edu/aat/300379558
Ricerche geognostiche invasive	invasive geophysical research	broadMatch	surveying	http://vocab.getty.edu/aat/300054691
Ricerche geognostiche invasive	invasive geophysical research	broadMatch	depth profiling	http://vocab.getty.edu/aat/300386598
Ricerche geognostiche non invasive	not invasive geophysical research	broadMatch	surveying	http://vocab.getty.edu/aat/300054691
Ricerche geognostiche non invasive	not invasive geophysical research	relatedMatch	geophysical surveys	http://vocab.getty.edu/aat/300379907
Telerilevamento	remote sensing	exactMatch	remote sensing	http://vocab.getty.edu/aat/300137339
Ricerca bibliografica	bibliographic research	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Ricerca bibliografica	bibliographic research	relatedMatch	publications (documents)	http://vocab.getty.edu/aat/300111999
Analisi di fonte letteraria classica	research on ancient literary sources	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Analisi di fonte cartografica d'archivio	research on cartographic materials	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Analisi di fonte cartografica d'archivio	research on cartographic materials	relatedMatch	Cartographic materials	http://vocab.getty.edu/aat/300028052
Analisi di fonte iconografica d'archivio	iconographic research on archival images	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Analisi di fonte iconografica d'archivio	iconographic research on archival images	relatedMatch	images (object genre)	http://vocab.getty.edu/aat/300264387
Studio monografico di Unità Archeologica	SITAR monograph on Archaeological Unit (single archaeological monument or complex)	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Studio monografico di Unità Archeologica	SITAR monograph on Archaeological Unit (single archaeological monument or complex)	relatedMatch	monographs	http://vocab.getty.edu/aat/300060417
Sopralluogo tecnico preliminare	Condition surveying	broadMatch	surveying	http://vocab.getty.edu/aat/300054691
Sopralluogo tecnico preliminare	Condition surveying	relatedMatch	condition reports	http://vocab.getty.edu/aat/300266009
Rilievo architettonico	architectural drawing	exactMatch	architectural drawing	http://vocab.getty.edu/aat/300054197
Studio archeologico propedeutico	preliminary study	closeMatch	site location	http://vocab.getty.edu/aat/300387384
Ricognizione speleologica	speleological surveying	broadMatch	surveying	http://vocab.getty.edu/aat/300054691
Ricognizione speleologica	speleological surveying	relatedMatch	caves	http://vocab.getty.edu/aat/300008746
Analisi di fonti archivistiche	buildings archaeology	exactMatch	buildings archaeology	http://vocab.getty.edu/aat/300266711
Analisi stratigrafica degli elevati	research on archival materials (fieldwork (research))	broadMatch	fieldwork (research)	http://vocab.getty.edu/aat/300077463
Analisi stratigrafica degli elevati	research on archival materials (fieldwork (research))	relatedMatch	archival materials	http://vocab.getty.edu/aat/300379505

ST_ARCHIVE_REFERENCE_TYPE

name_it	name_en	skos_relation	getty_name	getty_url
Richiesta parere	Request for opinion	broadMatch	petitions	http://vocab.getty.edu/aat/300027219
Concessione nulla-osta	Go-ahead approved – no impediment to – without reservation	broadMatch	permissions	http://vocab.getty.edu/aat/300140644
Concessione nulla-osta	Go-ahead approved – no impediment to – without reservation	closeMatch	permits	http://vocab.getty.edu/aat/300027833
Mancata concessione nulla osta	Go-ahead rejected	relatedMatch	permissions	http://vocab.getty.edu/aat/300140644
Mancata concessione nulla osta	Go-ahead rejected	relatedMatch	permits	http://vocab.getty.edu/aat/300027833
Bollato	Bollato (public utilities internal code)	broadMatch	declaratory documents	http://vocab.getty.edu/aat/300169672
Bollato	Bollato (public utilities internal code)	broadMatch	reports	http://vocab.getty.edu/aat/300027267
Consegna documentazione	Scientific and technical documents delivery	relatedMatch	document delivery	http://vocab.getty.edu/aat/300155355
Consegna documentazione	Scientific and technical documents delivery	broadMatch	technical reports	http://vocab.getty.edu/aat/300027323
Consegna documentazione	Scientific and technical documents delivery	broadMatch	surveys	http://vocab.getty.edu/aat/300226986
--da specificare---	undetermined	exactMatch	undetermined	http://vocab.getty.edu/aat/300379012
Parere conferenza di servizi	Public agencies meeting for agreement	broadMatch	agreements	http://vocab.getty.edu/aat/300027628
Parere conferenza di servizi	Public agencies meeting for agreement	broadMatch	official reports	http://vocab.getty.edu/aat/300027294
Comunicazione inizio lavori	communication of beginning of works	broadMatch	plans (reports)	http://vocab.getty.edu/aat/300027297
Comunicazione inizio lavori	communication of beginning of works	broadMatch	communiques	http://vocab.getty.edu/aat/300027296
Autorizzazione avvio indagini	permission to begin excavations and researches	broadMatch	permissions	http://vocab.getty.edu/aat/300140644
Autorizzazione avvio indagini	permission to begin excavations and researches	closeMatch	permits	http://vocab.getty.edu/aat/300027833
Riferimento ADA-SSBAR	Reference to ADA-SSBAR - Archive of Archaeological Data	relatedMatch	archives (groupings)	http://vocab.getty.edu/aat/300375748
Riferimento ADA-SSBAR	Reference to ADA-SSBAR - Archive of Archaeological Data	broadMatch	reference	http://vocab.getty.edu/aat/300311954
Rif. UUTT Atlante di Roma antica	Reference to Archive UUTT Atlas of Ancient Rome	relatedMatch	archives (groupings)	http://vocab.getty.edu/aat/300375748
Rif. UUTT Atlante di Roma antica	Reference to Archive UUTT Atlas of Ancient Rome	broadMatch	reference	http://vocab.getty.edu/aat/300311954
CLASSIFICA Archivio				
Amministrativo SSBAR	Classification from Administrative Archive SSBAR	relatedMatch	archives (groupings)	http://vocab.getty.edu/aat/300375748
CLASSIFICA Archivio				
Amministrativo SSBAR	Classification from Administrative Archive SSBAR	broadMatch	reference	http://vocab.getty.edu/aat/300311954
Richiesta nulla-osta	Request for go-ahead	broadMatch	petitions	http://vocab.getty.edu/aat/300027219

ST_INFORMATION_SOURCE_DOCUMENT_TYPE (ST_ARCHEO_PART_DOCUMENT_TYPE)

name_it	name_en	skos_relation	getty_name	getty_url
Documenti iconografici - Fotografia				
aerea	iconographic document-aerial photograph	exactMatch	aerial photographs	http://vocab.getty.edu/aat/300128222
Elaborati cartografici	cartographic material	exactMatch	cartographic materials	http://vocab.getty.edu/aat/300028052
Elaborati descrittivi	descriptive document	broadMatch	documents genres	http://vocab.getty.edu/aat/300026031
Elaborati descrittivi	descriptive document	narrowMatch	reports	http://vocab.getty.edu/aat/300027267
Elaborati grafici di corredo	accompanying drawing	broadMatch	visual works (works) orthographic projections (images)	http://vocab.getty.edu/aat/300191086
Elaborati grafici di corredo	accompanying drawing	narrowMatch		http://vocab.getty.edu/aat/300034017
Documenti iconografici	iconographic document	broadMatch	visual works (works)	http://vocab.getty.edu/aat/300191086
Documenti iconografici	iconographic document	narrowMatch	images (object genre) plans (orthographic projections)	http://vocab.getty.edu/aat/300264387
Elaborati cartografici - Planimetria	planimetry	closeMatch	projection	http://vocab.getty.edu/aat/300034104
Elaborati cartografici - Planimetria	planimetry	closeMatch	site plans elevations (orthographic projections)	http://vocab.getty.edu/aat/300034122
Elaborati grafici di corredo - Prospetto	accompanying drawing-elevation (view)	exactMatch		http://vocab.getty.edu/aat/300034065
Elaborati descrittivi - Relazione scientifica	descriptive document-scientific report	broadMatch	technical reports	http://vocab.getty.edu/aat/300027323
Elaborati descrittivi - Relazione scientifica	descriptive document-scientific report	broadMatch	surveys (documents)	http://vocab.getty.edu/aat/300226986
Elaborati descrittivi - Scheda Monografica	descriptive document-monographic form	broadMatch	condition reports	http://vocab.getty.edu/aat/300266009
Elaborati descrittivi - Scheda Monografica	descriptive document-monographic form	broadMatch	historic structure reports sections (orthographic projections)	http://vocab.getty.edu/aat/300198725
Elaborati grafici di corredo - Sezione	accompanying drawing-section	exactMatch		http://vocab.getty.edu/aat/300034223
Elaborati descrittivi - Scheda bibliografica	descriptive document-bibliographic form	closeMatch	citations (bibliographic)	http://vocab.getty.edu/aat/300311705

ST_ARCHEO_PART_TYPE

name_it	name_en	skos_relation	getty_name	getty_url
unità funzionale	architectural functional unit	relatedMatch	items (cataloging focus)	http://vocab.getty.edu/aat/300404024
unità funzionale	architectural functional unit	broadMatch	structures (single built works)	http://vocab.getty.edu/aat/300004794
partizione funzionale	functional partition	broadMatch	components (objects parts)	http://vocab.getty.edu/aat/300241583
partizione funzionale	functional partition	broadMatch	structural elements	http://vocab.getty.edu/aat/300078048
partizione funzionale	functional partition	relatedMatch	items (cataloging focus)	http://vocab.getty.edu/aat/300404024
segmento	archaeological structure or stratigraphy fragment	broadMatch	parts (constituent portion)	http://vocab.getty.edu/aat/300404159
partizione cronologica	chronological partition	broadMatch	components (objects parts)	http://vocab.getty.edu/aat/300241583
partizione cronologica	chronological partition	relatedMatch	temporary	http://vocab.getty.edu/aat/300221270
elemento con valenza topografica	ancient topographical element	broadMatch	archaeological objects	http://vocab.getty.edu/aat/300234110
elemento con valenza topografica	ancient topographical element	relatedMatch	topography (attribute)	http://vocab.getty.edu/aat/300068753
areale di fonte letteraria diretta	ancient literary source area	broadMatch	lost areas	http://vocab.getty.edu/aat/300387244
ipotesi_ricostruttiva	reconstructive hypothesis	broadMatch	reconstructions (visual works)	http://vocab.getty.edu/aat/300081531
restauri strutturali contemporanei	contemporary conservative intervention	broadMatch	additions (general components)	http://vocab.getty.edu/aat/300055458
restauri strutturali contemporanei	contemporary conservative intervention	broadMatch	alterations	http://vocab.getty.edu/aat/300055457
restauri strutturali contemporanei	contemporary conservative intervention	relatedMatch	conservation (discipline)	http://vocab.getty.edu/aat/300054238
corpo di fabbrica	architectural body	broadMatch	structures (single built works)	http://vocab.getty.edu/aat/300004794
corpo di fabbrica	architectural body	broadMatch	buildings (structures)	http://vocab.getty.edu/aat/300004792
corpo di fabbrica	architectural body	narrowMatch	corps de logis	http://vocab.getty.edu/aat/300002658
elemento strutturale	structural element	broadMatch	structural elements	http://vocab.getty.edu/aat/300078048
elemento strutturale	structural element	broadMatch	structures (structural elements)	http://vocab.getty.edu/aat/300000992
connessione	structural connection	broadMatch	joints (connections)	http://vocab.getty.edu/aat/300033608
discontinuità-degrado	physical discontinuity or degradation interface	broadMatch	damage	http://vocab.getty.edu/aat/300068940
discontinuità-degrado	physical discontinuity or degradation interface	broadMatch	condition changing processes	http://vocab.getty.edu/aat/300229410
discontinuità-degrado	physical discontinuity or degradation interface	relatedMatch	buildings archaeology	http://vocab.getty.edu/aat/300266711
intervento di consolidamento	conservative intervention	broadMatch	alterations	http://vocab.getty.edu/aat/300055457
intervento di consolidamento	conservative intervention	relatedMatch	consolidation	http://vocab.getty.edu/aat/300219960
intervento di consolidamento	conservative intervention	relatedMatch	conservation (discipline)	http://vocab.getty.edu/aat/300054238
elemento di ipotesi ricostruttiva	reconstructive hypothesis element	broadMatch	reconstructions (visual works)	http://vocab.getty.edu/aat/300081531

ST_GEO_REFERENCE_ACCURACY

name_it	name_en	skos_relation	getty_name	getty_url
certa	exact	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
certa	exact	relatedMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
approssimata	approximate	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
approssimata	approximate	relatedMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
ricostruita	approximate (derived)	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
ricostruita	approximate (derived)	relatedMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211

ST_GEO_REFERENCE_METHOD

name_it	name_en	skos_relation	getty_name	getty_url
base catastale vettoriale (versione anno 1994)	georeferencing (based upon vector cadastral maps - year 1994)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
base catastale vettoriale (versione anno 1994)	georeferencing (based upon vector cadastral maps - year 1994)	relatedMatch	cadastral maps	http://vocab.getty.edu/aat/300028102
base catastale vettoriale (versione anno 1994)	georeferencing (based upon vector cadastral maps - year 1994)	relatedMatch	digital maps	http://vocab.getty.edu/aat/300028459
base catastale vettoriale (versione anno 2004)	georeferencing (based upon vector cadastral maps – year 2004)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
base catastale vettoriale (versione anno 2004)	georeferencing (based upon vector cadastral maps – year 2004)	relatedMatch	cadastral maps	http://vocab.getty.edu/aat/300028102
base catastale vettoriale (versione anno 2004)	georeferencing (based upon vector cadastral maps – year 2004)	relatedMatch	digital maps	http://vocab.getty.edu/aat/300028459
aerofotogrammetria vettoriale (versione anno 2000)	georeferencing (based upon aerial photogrammetry and vector maps – year 2000)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
aerofotogrammetria vettoriale (versione anno 2000)	georeferencing (based upon aerial photogrammetry and vector maps – year 2000)	relatedMatch	digital maps	http://vocab.getty.edu/aat/300028459
aerofotogrammetria vettoriale (versione anno 2000)	georeferencing (based upon aerial photogrammetry and vector maps – year 2000)	relatedMatch	aerial photogrammetry	http://vocab.getty.edu/aat/300053581
carta tecnica regionale raster (revisione anno 2005)	georeferencing (based upon raster regional maps – year 2005)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
carta tecnica regionale raster (revisione anno 2005)	georeferencing (based upon raster regional maps – year 2005)	relatedMatch	topographic maps	http://vocab.getty.edu/aat/300028361
carta tecnica regionale raster (revisione anno 2005)	georeferencing (based upon raster regional maps – year 2005)	relatedMatch	master plans (orthographic projections)	http://vocab.getty.edu/aat/300076275
cartografia IGMI	georeferencing (based upon National cartography –	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211

cartografia IGMI	Italian Military Geographical Institute) georeferencing (based upon National cartography – Italian Military Geographical Institute)	relatedMatch	national atlases	http://vocab.getty.edu/aat/300028067
cartografia IGMI	georeferencing (based upon National cartography – Italian Military Geographical Institute)	relatedMatch	topographic maps	http://vocab.getty.edu/aat/300028361
rilievo GPS	Georeferencing by GPS	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
rilievo GPS	Georeferencing by GPS	relatedMatch	Global Positioning System	http://vocab.getty.edu/aat/300263888
rilievo topografico diretto	georeferencing by direct topographic survey	relatedMatch	topographical surveying	http://vocab.getty.edu/aat/300054694
rilievo topografico diretto	georeferencing by direct topographic survey	relatedMatch	topography (image-making)	http://vocab.getty.edu/aat/300256273
rilievo topografico diretto	georeferencing by direct topographic survey	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
triangolazione ottica	georeferencing by optical triangulation	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
triangolazione ottica	georeferencing by optical triangulation	relatedMatch	triangulation stations	http://vocab.getty.edu/aat/300387033
trilaterazione manuale	georeferencing by trilateration on field	relatedMatch	topographical surveying	http://vocab.getty.edu/aat/300054694
trilaterazione manuale	georeferencing by trilateration on field	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
ricostruzione dello schema di trilaterazione	georeferencing by trilateration (based upon archive documentation)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
ricostruzione dello schema di trilaterazione	georeferencing by trilateration (based upon archive documentation)	relatedMatch	sketch maps	http://vocab.getty.edu/aat/300028413
base catastale vettoriale (versione 2006)	georeferencing (based upon vector cadastral maps - year 2006)	broadMatch	location (activity or state)	http://vocab.getty.edu/aat/300393211
base catastale vettoriale (versione 2006)	georeferencing (based upon vector cadastral maps - year 2006)	relatedMatch	cadastral maps	http://vocab.getty.edu/aat/300028102
base catastale vettoriale (versione 2006)	georeferencing (based upon vector cadastral maps – year 2006)	relatedMatch	digital maps	http://vocab.getty.edu/aat/300028459

ST_REPRESENTATION_ACCURACY

name_it	name_en	skos_relation	getty_name	getty_url
dettagliata	detailed representation	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
dettagliata	detailed representation	relatedMatch	technical drawings	http://vocab.getty.edu/aat/300034789
schematica	outlined representation	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
schematica	outlined representation	relatedMatch	outline drawings	http://vocab.getty.edu/aat/300100207
simbolica	schematic representation	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
simbolica	schematic representation	relatedMatch	symbols	http://vocab.getty.edu/aat/300055878

ST_ARCHEO_PART_OBJECTIVE_DEFINITION

name_it	name_en	skos_relation	getty_name	getty_url
fondazione	foundation (structural element)	exactMatch	foundations (structural elements)	http://vocab.getty.edu/aat/300000919
alzato	vertical structure	broadMatch	structures (structural elements)	http://vocab.getty.edu/aat/300000992
alzato	vertical structure	narrowMatch	walls	http://vocab.getty.edu/aat/300002469
alzato	vertical structure	narrowMatch	elevations (building divisions)	http://vocab.getty.edu/aat/300076168
orizzontamento	plate structure	closeMatch	plate structures	http://vocab.getty.edu/aat/300001203
orizzontamento	plate structure	narrowMatch	floors (surface elements)	http://vocab.getty.edu/aat/300002060
orizzontamento	plate structure	narrowMatch	decking	http://vocab.getty.edu/aat/300126969
strutture	structure	closeMatch	structures (single built works)	http://vocab.getty.edu/aat/300004794
strutture	structure	broadMatch	structures (structural elements)	http://vocab.getty.edu/aat/300000992
S: collegamenti verticali, scale	S: vertical connection, stair	broadMatch	circulation elements	http://vocab.getty.edu/aat/300003217
S: collegamenti verticali, scale	S: vertical connection, stair	narrowMatch	vertical conveying systems	http://vocab.getty.edu/aat/300051152
S: collegamenti verticali, scale	S: vertical connection, stair	broadMatch	joints (connections)	http://vocab.getty.edu/aat/300033608
PO: elementi portanti orizzontali	PO: horizontal carrier/bearing element	broadMatch	structural frames	http://vocab.getty.edu/aat/300001479
PO: elementi portanti orizzontali	PO: horizontal carrier/bearing element	closeMatch	decking	http://vocab.getty.edu/aat/300126969
PO: elementi portanti orizzontali	PO: horizontal carrier/bearing element	narrowMatch	horizontal roof frame components	http://vocab.getty.edu/aat/300070229
R: elementi di presidio o rinforzo	protection or fortification element	narrowMatch	cantilevers	http://vocab.getty.edu/aat/300001845
R: elementi di presidio o rinforzo	protection or fortification element	broadMatch	structural elements	http://vocab.getty.edu/aat/300078048
R: elementi di presidio o rinforzo	protection or fortification element	narrowMatch	piers (supporting elements)	http://vocab.getty.edu/aat/300000953
interfaccia di discontinuità				
stratigrafica	interface of stratigraphic discontinuity	narrowMatch	damage	http://vocab.getty.edu/aat/300068940
interfaccia di discontinuità				
stratigrafica	interface of stratigraphic discontinuity	broadMatch	surfaces (object portions)	http://vocab.getty.edu/aat/300190708
interfaccia di discontinuità				
stratigrafica	interface of stratigraphic discontinuity	relatedMatch	buildings archaeology	http://vocab.getty.edu/aat/300266711
unità post-deposizionale	post-depositional unit	broadMatch	layers (components)	http://vocab.getty.edu/aat/300226788
unità post-deposizionale	post-depositional unit	relatedMatch	surface or structural changes	http://vocab.getty.edu/aat/300229438
unità post-deposizionale	post-depositional unit	relatedMatch	buildings archaeology	http://vocab.getty.edu/aat/300266711
presidio storico	ancient protection or fortification element	broadMatch	structural elements	http://vocab.getty.edu/aat/300078048
presidio storico	ancient protection or fortification element	relatedMatch	historic preservation	http://vocab.getty.edu/aat/300054166
presidio storico	ancient protection or fortification	narrowMatch	fortification elements	http://vocab.getty.edu/aat/300003687

element				
manutenzione/presidio straordinario	Maintenance / extraordinary protection element	broadMatch	structural elements	http://vocab.getty.edu/aat/300078048
manutenzione/presidio straordinario	Maintenance / extraordinary protection element	narrowMatch	cantilevers	http://vocab.getty.edu/aat/300001845
manutenzione/presidio straordinario	Maintenance / extraordinary protection element	narrowMatch	piers (supporting elements)	http://vocab.getty.edu/aat/300000953
soglia/apertura	Sill / opening	closeMatch	openings (architectural elements)	http://vocab.getty.edu/aat/300002765
materiali archeologici in superficie	archaeological materials on the surface	broadMatch	fragments (object portions)	http://vocab.getty.edu/aat/300117130
materiali archeologici in superficie	archaeological materials on the surface	relatedMatch	surface layers	http://vocab.getty.edu/aat/300226800
materiali archeologici in superficie	archaeological materials on the surface	broadMatch	archaeological objects	http://vocab.getty.edu/aat/300234110
elementi architettonici	architectural element	exactMatch	architectural elements	http://vocab.getty.edu/aat/300000885
elementi scultorei	sculptural element	exactMatch	sculpture components	http://vocab.getty.edu/aat/300184602
elementi epigrafici	epigraphic element	relatedMatch	epigraphy	http://vocab.getty.edu/aat/300138808
elementi epigrafici	epigraphic element	narrowMatch	inscriptions	http://vocab.getty.edu/aat/300028702
cavità artificiale	Artificial cavity	broadMatch	rock-cut architecture	http://vocab.getty.edu/aat/300008031
cavità artificiale	Artificial cavity	broadMatch	cave architecture	http://vocab.getty.edu/aat/300008019
cavità artificiale	Artificial cavity	narrowMatch	pits (earthworks)	http://vocab.getty.edu/aat/300008027
cavità naturale	Natural cavity	exactMatch	caves	http://vocab.getty.edu/aat/300008746
cavità naturale	Natural cavity	exactMatch	caverns	http://vocab.getty.edu/aat/300129031
taglio artificiale	artificial cut	narrowMatch	pits (earthworks)	http://vocab.getty.edu/aat/300008027
taglio artificiale	artificial cut	narrowMatch	cuts (earthworks)	http://vocab.getty.edu/aat/300008021
taglio artificiale	artificial cut	narrowMatch	quarries (extracting complexes)	http://vocab.getty.edu/aat/300000402
taglio naturale	natural cut	narrowMatch	caves	http://vocab.getty.edu/aat/300008746
taglio naturale	natural cut	broadMatch	landforms (terrestrial)	http://vocab.getty.edu/aat/300266060
livelli contemporanei	contemporary layer	broadMatch	layers (components)	http://vocab.getty.edu/aat/300226788
livelli contemporanei	contemporary layer	relatedMatch	modern (generic time frame)	http://vocab.getty.edu/aat/300379388
livelli contemporanei	contemporary layer	relatedMatch	landfills	http://vocab.getty.edu/aat/300000830
livello archeologico	archaeological layer	broadMatch	layers (components)	http://vocab.getty.edu/aat/300226788
livello archeologico	archaeological layer	narrowMatch	archaeological objects	http://vocab.getty.edu/aat/300234110
livello non antropico	non-anthropic layer	broadMatch	layers (components)	http://vocab.getty.edu/aat/300226788

livello non antropico	non-anthropic layer	narrowMatch	geological formations	http://vocab.getty.edu/aat/300387100
substrati geologici	geological substrate	closeMatch	geological formations	http://vocab.getty.edu/aat/300387100
da definire	undetermined	exactMatch	undetermined	http://vocab.getty.edu/aat/300379012
rivestimenti parietali	wall covering	exactMatch	wall coverings	http://vocab.getty.edu/aat/300037353
rivestimenti parietali	wall covering	closeMatch	revetments	http://vocab.getty.edu/aat/300079019
rivestimenti parietali	wall covering	narrowMatch	siding (materials)	http://vocab.getty.edu/aat/300014861
rivestimenti pavimentali	floor covering	exactMatch	flooring	http://vocab.getty.edu/aat/300014866
rivestimenti pavimentali	floor covering	closeMatch	floor coverings	http://vocab.getty.edu/aat/300186091
connessione	structural connection	closeMatch	joints (connections)	http://vocab.getty.edu/aat/300033608
areale di fonte letteraria diretta	ancient literary source area	broadMatch	lost areas	http://vocab.getty.edu/aat/300387244

ST_ARCHEO_PART_SPECIFIC_DEFINITION

name_it	name_en	skos_relation	getty_name	getty_url
tra paramenti murari	filling in between walls	broadMatch	walls	http://vocab.getty.edu/aat/300002469
tra paramenti murari	filling in between walls	relatedMatch	fill (leveling material)	http://vocab.getty.edu/aat/300015132
muri di rinforzo	reinforcing wall	closeMatch	retaining walls	http://vocab.getty.edu/aat/300005073
canalizzazione	artificial channel	broadMatch	artificial water channels	http://vocab.getty.edu/aat/300133792
cippo di confine agrario	cippus (field boundary mark)	closeMatch	cippi	http://vocab.getty.edu/aat/300006963
cippo di confine agrario	cippus (field boundary mark)	broadMatch	boundary stones	http://vocab.getty.edu/aat/300006962
canali di irrigazione | fosso di drenaggio	irrigation canal – drainage moat	broadMatch	distributaries (streams)	http://vocab.getty.edu/aat/300387055
canali di irrigazione | fosso di drenaggio	irrigation canal – drainage moat	broadMatch	water distribution structures	http://vocab.getty.edu/aat/300006164
cippo confinario	cippus (boundary mark)	closeMatch	cippi	http://vocab.getty.edu/aat/300006963
cippo confinario	cippus (boundary mark)	broadMatch	boundary stones	http://vocab.getty.edu/aat/300006962
giardino	garden	exactMatch	gardens (open space)	http://vocab.getty.edu/aat/300008090
recinzione di area coltivata	fence (farmland)	broadMatch	fences (site elements)	http://vocab.getty.edu/aat/300005044
recinzione di area coltivata	fence (farmland)	relatedMatch	farmland	http://vocab.getty.edu/aat/300008632
tracce di coltivazione	Farmland – crops (remains)	relatedMatch	farmland	http://vocab.getty.edu/aat/300008632
tracce di coltivazione	Farmland – crops (remains)	relatedMatch	cropland	http://vocab.getty.edu/aat/300132443
acquedotto	aqueduct	exactMatch	aqueducts	http://vocab.getty.edu/aat/300006165
canale pubblico	channel (for public use)	broadMatch	artificial water channels	http://vocab.getty.edu/aat/300133792
canale di bonifica pubblica	land reclamation channel	broadMatch	land reclamation works	http://vocab.getty.edu/aat/300006162

canale di bonifica pubblica	land reclamation channel	broadMatch	flood protection works	http://vocab.getty.edu/aat/300006161
castellum aquae	castellum aquae	exactMatch	castelli aquae	http://vocab.getty.edu/aat/300006192
condotto fognario pubblico	sewer (public)	exactMatch	cloacae	http://vocab.getty.edu/aat/300006124
conduttrice idrica pubblica | fistula	public water pipe	broadMatch	aqueducts	http://vocab.getty.edu/aat/300006165
fontana pubblica	public fountain	broadMatch	fountains	http://vocab.getty.edu/aat/300006179
ninfeo pubblico | fontana monumentale	public nymphaeum | monumental fountain	broadMatch	fountains	http://vocab.getty.edu/aat/300006179
ninfeo pubblico | fontana monumentale	public nymphaeum | monumental fountain	broadMatch	nymphaea (garden structures)	http://vocab.getty.edu/aat/300006809
riserva d'acqua | pozzo | cisterna	water reservoirs | well | cistern	broadMatch	reservoirs (water distribution structures)	http://vocab.getty.edu/aat/300006191
riserva d'acqua | pozzo | cisterna	water reservoirs | well | cistern	narrowMatch	cisterns (plumbing components)	http://vocab.getty.edu/aat/300052558
riserva d'acqua | pozzo | cisterna	water reservoirs | well | cistern	narrowMatch	water wells	http://vocab.getty.edu/aat/300152327
ninfeo	nymphaeum	exactMatch	nymphaea (garden structures)	http://vocab.getty.edu/aat/300006809
diverticolo	secondary road	closeMatch	secondary roads	http://vocab.getty.edu/aat/300008287
tracciato viario urbano	urban roads	closeMatch	streets	http://vocab.getty.edu/aat/300008247
tracciato viario extraurbano	extra-urban roads	broadMatch	roads	http://vocab.getty.edu/aat/300008217
viadotto	viaduct	exactMatch	viaducts	http://vocab.getty.edu/aat/300007890
aggere delle mura	wall embankment	broadMatch	defensive wall components	http://vocab.getty.edu/aat/300002493
aggere delle mura	wall embankment	relatedMatch	embankments	http://vocab.getty.edu/aat/300008023
cinta muraria	city walls	exactMatch	city walls	http://vocab.getty.edu/aat/300005072
porta urbica	city gate	exactMatch	city gates	http://vocab.getty.edu/aat/300005080
fossato difensivo | della cinta muraria	fosse (of city walls)	closeMatch	fosses	http://vocab.getty.edu/aat/300101513
complesso monastico	monastery	exactMatch	monasteries (built complexes)	http://vocab.getty.edu/aat/300000641
horti/giardini pubblici	horti – public gardens	closeMatch	public gardens	http://vocab.getty.edu/aat/300008155
palazzo	palace	closeMatch	palaces	http://vocab.getty.edu/aat/300005734
capanna	hut	closeMatch	huts (houses)	http://vocab.getty.edu/aat/300004824
casa torre	tower house	exactMatch	tower houses (defensive structures)	http://vocab.getty.edu/aat/300182716
domus	domus	exactMatch	domus	http://vocab.getty.edu/aat/300005506
edificio abitativo	dwelling	exactMatch	dwellings	http://vocab.getty.edu/aat/300005425

insula	insula	exactMatch	insulae	http://vocab.getty.edu/aat/300000325
criptoportico di domus	cryptoporticus (domus)	broadMatch	cryptoportici	http://vocab.getty.edu/aat/300004295
villa rustica	villa rustica	exactMatch	villae rusticae	http://vocab.getty.edu/aat/300005518
circo/stadio	Circus - stadium	closeMatch	circuses (Roman arenas)	http://vocab.getty.edu/aat/300007255
circo/stadio	Circus - stadium	broadMatch	stadiums	http://vocab.getty.edu/aat/300007271
cava pubblica	public quarry	broadMatch	quarries (extracting complexes)	http://vocab.getty.edu/aat/300000402
edificio commerciale [e produttivo] pubblico	public commercial building - workshop	broadMatch	commercial buildings	http://vocab.getty.edu/aat/300005147
edificio commerciale [e produttivo] pubblico	public commercial building - workshop	broadMatch	workshop buildings	http://vocab.getty.edu/aat/300007733
horreum	horreum	exactMatch	horrea	http://vocab.getty.edu/aat/300120504
macellum | mercato	Macellum - market place	exactMatch	macella	http://vocab.getty.edu/aat/300005241
miniera pubblica	public mine	closeMatch	mines (extracting complexes)	http://vocab.getty.edu/aat/300000390
taberna | bottega	taberna – shop	exactMatch	tabernae	http://vocab.getty.edu/aat/300005366
calcaria	lime klin	closeMatch	lime kilns	http://vocab.getty.edu/aat/300006404
cava privata	private quarry	broadMatch	quarries (extracting complexes)	http://vocab.getty.edu/aat/300000402
edificio commerciale [e produttivo] privato	private commercial building - workshop	broadMatch	commercial buildings	http://vocab.getty.edu/aat/300005147
edificio commerciale [e produttivo] privato	private commercial building - workshop	broadMatch	workshop buildings	http://vocab.getty.edu/aat/300007733
officina marmoraria	officina marmoraria	broadMatch	workshop buildings	http://vocab.getty.edu/aat/300007733
officina marmoraria	officina marmoraria	relatedMatch	stonecutting	http://vocab.getty.edu/aat/300054080
porticus	porticus	closeMatch	porticoes	http://vocab.getty.edu/aat/300004145
collegium | sede di corporazione	Collegium – guildhall	exactMatch	guildhalls	http://vocab.getty.edu/aat/300007077
caserma	barracks	exactMatch	barracks	http://vocab.getty.edu/aat/300005665
castrum	castrum	exactMatch	castra	http://vocab.getty.edu/aat/300008440
latrina pubblica	latrina (public)	exactMatch	latrines	http://vocab.getty.edu/aat/300007951
portico	porticus	closeMatch	porticoes	http://vocab.getty.edu/aat/300004145
complesso termale	thermae	exactMatch	thermae	http://vocab.getty.edu/aat/300007364
calidario	calidarium	exactMatch	caldaria	http://vocab.getty.edu/aat/300004203
arco	arch	broadMatch	arch	http://vocab.getty.edu/aat/300000994
colonna	column	exactMatch	columns (architectural elements)	http://vocab.getty.edu/aat/300001571
altro monumento onorario	other honorary monument	broadMatch	monuments	http://vocab.getty.edu/aat/300006958

ara	ara	exactMatch	arae	http://vocab.getty.edu/aat/300007633
chiesa	church	closeMatch	churches (buildings)	http://vocab.getty.edu/aat/300007466
compitum	compitum	broadMatch	aedicules	http://vocab.getty.edu/aat/300002574
deposito votivo	votive deposit	broadMatch	votive offerings	http://vocab.getty.edu/aat/300178244
favissa	favissa	broadMatch	votive offerings	http://vocab.getty.edu/aat/300178244
sacello	sacellum	exactMatch	sacella	http://vocab.getty.edu/aat/300007570
tempio	temple	exactMatch	temples (buildings)	http://vocab.getty.edu/aat/300007595
catacomba pubblica	catacombs (public)	exactMatch	catacombs	http://vocab.getty.edu/aat/300000367
monumento funerario	sepulchral monument	broadMatch	sepulchral monuments	http://vocab.getty.edu/aat/300005909
necropoli | cimitero	necropolis – cemetery	exactMatch	necropolises	http://vocab.getty.edu/aat/300000372
catacomba privata	catacombs (private)	exactMatch	catacombs	http://vocab.getty.edu/aat/300000367
colombario	columbarium	exactMatch	columbaria (cemeteries)	http://vocab.getty.edu/aat/300000370
mausoleo | monumento funerario privato	Mausoleum – private funerary monument	exactMatch	mausoleums	http://vocab.getty.edu/aat/300005891
recinto funerario	funerary fence	broadMatch	funerary structures	http://vocab.getty.edu/aat/300122208
recinto funerario	funerary fence	broadMatch	fences (site elements)	http://vocab.getty.edu/aat/300005044
tomba	Tomb – grave	narrowMatch	tombs	http://vocab.getty.edu/aat/300005926
tomba	Tomb – grave	narrowMatch	graves	http://vocab.getty.edu/aat/300005907
Non identificato	undetermined – unavailable	closeMatch	undetermined (information indicator)	http://vocab.getty.edu/aat/300379012
Non identificato	undetermined – unavailable	closeMatch	unavailable (information indicator)	http://vocab.getty.edu/aat/300400512
balneum di domus	balneum (domus)	broadMatch	balnea	http://vocab.getty.edu/aat/300120377
Opera di sostruzione	substructures	exactMatch	substructures	http://vocab.getty.edu/aat/300001955
Scala	stair	exactMatch	stairs	http://vocab.getty.edu/aat/300003228
abitazione	dwelling	exactMatch	dwellings	http://vocab.getty.edu/aat/300005425
viabilità pubblica contemporanea	contemporary roads (public)	broadMatch	roads	http://vocab.getty.edu/aat/300008217
viabilità privata contemporanea	contemporary roads (private)	broadMatch	roads	http://vocab.getty.edu/aat/300008217
area rurale privata contemporanea	contemporary agricultural area (private)	broadMatch	agricultural complexes	http://vocab.getty.edu/aat/300125766
area rurale pubblica contemporanea	contemporary agricultural area (public)	broadMatch	agricultural complexes	http://vocab.getty.edu/aat/300125766
sedime insediativo urbano privato (contemporaneo)	contemporary settlement remains (private)	broadMatch	former structures	http://vocab.getty.edu/aat/300386958

sedime insediativo urbano pubblico (contemporaneo)	contemporary settlement remains (public)	broadMatch	former structures	http://vocab.getty.edu/aat/300386958
cantina di edificio privato	cellar (private building)	exactMatch	cellars (storerooms)	http://vocab.getty.edu/aat/300004759
ninfeo di domus	nymphaeum (domus)	broadMatch	nymphaea (garden structures)	http://vocab.getty.edu/aat/300006809
sterquilinium	sterquilinium	broadMatch	dumps (refuse areas)	http://vocab.getty.edu/aat/30000824
sterquilinium	sterquilinium	relatedMatch	manure	http://vocab.getty.edu/aat/300255447
vasca [default]	pool	broadMatch	bathtubs	http://vocab.getty.edu/aat/300052625
vasca [default]	pool	broadMatch	water tanks	http://vocab.getty.edu/aat/300006203

ST_DATING_METHOD

name_it	name_en	skos_relation	getty_name	getty_url
analisi dei materiali	dating by materials analysis	relatedMatch	artifacts (object genre)	http://vocab.getty.edu/aat/300117127
analisi dei materiali	dating by materials analysis	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi della stratigrafia	dating by analysis of stratigraphy	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi della stratigrafia	dating by analysis of stratigraphy	relatedMatch	stratigraphy	http://vocab.getty.edu/aat/300192073
analisi delle strutture	dating by analysis of structures	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi delle strutture	dating by analysis of structures	relatedMatch	structures (single built works)	http://vocab.getty.edu/aat/300004794
analisi stilistica	dating by stylistic analysis	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi stilistica	dating by stylistic analysis	relatedMatch	style (critical concept)	http://vocab.getty.edu/aat/300055835
analisi storica	dating by historical analysis	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi storica	dating by historical analysis	relatedMatch	history (discipline)	http://vocab.getty.edu/aat/300054394
analisi tipologica	dating by typological analysis	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
analisi tipologica	dating by typological analysis	relatedMatch	typology	http://vocab.getty.edu/aat/300067209
bibliografia	dating by bibliographic sources	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
bibliografia	dating by bibliographic sources	relatedMatch	publications (document genre)	http://vocab.getty.edu/aat/300111999
bollo	dating by stamps (marks)	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
bollo	dating by stamps (marks)	relatedMatch	stamps (marks)	http://vocab.getty.edu/aat/300262844
contesto	dating by context	relatedMatch	environments (object groupings)	http://vocab.getty.edu/aat/300055325
contesto	dating by context	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
data	absolute dating	closeMatch	absolute dating	http://vocab.getty.edu/aat/300224276
dati epigrafici	dating by epigraphic data	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
dati epigrafici	dating by epigraphic data	relatedMatch	epigraphy	http://vocab.getty.edu/aat/300138808
documentazione	dating by documentation	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714

documentazione	dating by documentation	relatedMatch	documents	http://vocab.getty.edu/aat/300026030
fonte archivistica	dating by archival materials	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
fonte archivistica	dating by archival materials	relatedMatch	archival materials	http://vocab.getty.edu/aat/300379505
indagini chimico-fisiche	dating by chemical-physical analysis	relatedMatch	chemical analysis	http://vocab.getty.edu/aat/300081685
indagini chimico-fisiche	dating by chemical-physical analysis	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
prospezioni	dating by prospection	relatedMatch	geophysical surveys	http://vocab.getty.edu/aat/300379907
prospezioni	dating by prospection	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
toponomastica	dating by toponomy	relatedMatch	toponymy	http://vocab.getty.edu/aat/300054272
toponomastica	dating by toponomy	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
tradizione orale	dating by oral tradition	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
tradizione orale	dating by oral tradition	relatedMatch	oral tradition	http://vocab.getty.edu/aat/300262982
NR (recupero pregresso)	NR (previous recovery)	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714

ST_MATERIAL

name_it	name_en	skos_relation	getty_name	getty_url
Calce	lime	exactMatch	lime concrete	http://vocab.getty.edu/aat/300010748
Ciottoli	pebble (rock)	exactMatch	pebble (rock)	http://vocab.getty.edu/aat/300011691
Coppi	roman tile	exactMatch	roman tile	http://vocab.getty.edu/aat/300010717
Frr.ti architettonici	architectural fragments	broadMatch	fragments (object portions)	http://vocab.getty.edu/aat/300117130
Frr.ti architettonici	architectural fragments	broadMatch	architectural elements	http://vocab.getty.edu/aat/300000885
Ghiaia	gravel	exactMatch	gravel	http://vocab.getty.edu/aat/300011689
Laterizi	brick (clay product)	exactMatch	brick (clay product)	http://vocab.getty.edu/aat/300010463
Malta	mortar (filler)	exactMatch	mortar (filler)	http://vocab.getty.edu/aat/300014741
Marmo	marble (rock)	exactMatch	marble (rock)	http://vocab.getty.edu/aat/300011443
Mattoni	building brick (clay products)	exactMatch	building brick (clay products)	http://vocab.getty.edu/aat/300010534
Peperino	Peperino	exactMatch	Peperino	http://vocab.getty.edu/aat/300011265
Pozzolana	pozzolana (clay)	exactMatch	pozzolana (clay)	http://vocab.getty.edu/aat/300014780
Tegole	pantile	exactMatch	pantile	http://vocab.getty.edu/aat/300010713
Travertino	Roman classic travertine	exactMatch	Roman classic travertine	http://vocab.getty.edu/aat/300264905
Tufo	tuff	exactMatch	tuff	http://vocab.getty.edu/aat/300011264
Calcare	calcareous sandstone	exactMatch	calcareous sandstone	http://vocab.getty.edu/aat/300011392
Legno	wood (plant material)	exactMatch	wood (plant material)	http://vocab.getty.edu/aat/300011914
Argilla	clay	exactMatch	clay	http://vocab.getty.edu/aat/300010439

ST_CHRONOLOGY_TYPE

name_it	name_en	skos_relation	getty_name	getty_url
cronologia di impianto\fondazione	establishment/foundation dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia di impianto\fondazione	establishment/foundation dating	relatedMatch	establishment (action or condition)	http://vocab.getty.edu/aat/300393212
cronologia di impianto\fondazione	establishment/foundation dating	relatedMatch	foundation (action or condition)	http://vocab.getty.edu/aat/300393213
cronologia di vita\uso	existence/use dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia di vita\uso	existence/use dating	relatedMatch	use	http://vocab.getty.edu/aat/300068844
cronologia di restauro	renovation/preservation dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia di restauro	renovation/preservation dating	relatedMatch	renovation	http://vocab.getty.edu/aat/300077781
cronologia di restauro	renovation/preservation dating	relatedMatch	preservation (function)	http://vocab.getty.edu/aat/300105444
cronologia di formazione	origination dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia di formazione	origination dating	relatedMatch	origination	http://vocab.getty.edu/aat/300393182
cronologia di formazione	origination dating	relatedMatch	stratigraphy	http://vocab.getty.edu/aat/300192073
cronologia dei reperti	artifacts (object genre) dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia dei reperti	artifacts (object genre) dating	relatedMatch	artifacts (object genre)	http://vocab.getty.edu/aat/300117127
cronologia non determinabile	undetermined	exactMatch	undetermined	http://vocab.getty.edu/aat/300379012
cronologia di abbandono\destrutturazione	End of existence/destruction dating	broadMatch	dating (measuring)	http://vocab.getty.edu/aat/300054714
cronologia di abbandono\destrutturazione	End of existence/destruction dating	relatedMatch	destruction	http://vocab.getty.edu/aat/300053087

ST KNOWLEDGE_ACCESSIBILITY

name_it	name_en	skos_relation	getty_name	getty_url
esistente	extant	exactMatch	extant	http://vocab.getty.edu/aat/300219444
non più esistente	Lost - no longer extant	broadMatch	time-related attributes	http://vocab.getty.edu/aat/300253873
non più esistente	Lost - no longer extant	relatedMatch	lost works	http://vocab.getty.edu/aat/300265226
visibile	extant – not accessible	broadMatch	extant	http://vocab.getty.edu/aat/300219444
visitabile	accessible	broadMatch	attributes (characteristics)	http://vocab.getty.edu/aat/300191790
visitabile	accessible	relatedMatch	access	http://vocab.getty.edu/aat/300133046
non determinabile	undetermined – unavailable	closeMatch	undetermined (information indicator)	http://vocab.getty.edu/aat/300379012
non determinabile	undetermined – unavailable	closeMatch	unavailable (information indicator)	http://vocab.getty.edu/aat/300400512

ST_NAMED_YEAR_RANGE

name_it	name_en	skos_relation	getty_name	getty_url
Età del Rame o Eneolitico	Eneolithic	closeMatch	Eneolithic	http://vocab.getty.edu/aat/300106757
Età del Bronzo Antico	Early Bronze Age	closeMatch	Early Bronze Age	http://vocab.getty.edu/aat/300019276
Età del Bronzo Medio	Middle Bronze Age	closeMatch	Middle Bronze Age	http://vocab.getty.edu/aat/300019277
Età del Bronzo Recente	Recent Bronze Age	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Finale	Final Bronze Age	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Ferro	Iron Age	closeMatch	Iron Age	http://vocab.getty.edu/aat/300019279
Orientalizzante	Orientalizing	closeMatch	Orientalizing	http://vocab.getty.edu/aat/300020085
Età romana	Roman Age	exactMatch	Roman (ancient Italian culture or period)	http://vocab.getty.edu/aat/300020533
Età regia	Roman Kingdom	exactMatch	Monarchic (Roman style or period)	http://vocab.getty.edu/aat/300263281
Età arcaica	Roman Archaic Period	narrowMatch	Monarchic (Roman style or period)	http://vocab.getty.edu/aat/300263281
Età arcaica	Roman Archaic Period	broadMatch	Republican	http://vocab.getty.edu/aat/300020537
Età repubblicana	Roman Republic	exactMatch	Republican	http://vocab.getty.edu/aat/300020537
Età imperiale	Roman Imperial Period	narrowMatch	Imperial (Roman)	http://vocab.getty.edu/aat/300020541
Età imperiale	Roman Imperial Period	broadMatch	Late Antique	http://vocab.getty.edu/aat/300020666
Età tardo-antica	Late Antique	closeMatch	Late Antique	http://vocab.getty.edu/aat/300020666
Età medievale	Medieval	closeMatch	Medieval (European)	http://vocab.getty.edu/aat/300020756
Età Basso Medievale	Late Medieval	closeMatch	Late Medieval	http://vocab.getty.edu/aat/300111307
Età Alto Medievale	Early Medieval	closeMatch	Early Medieval	http://vocab.getty.edu/aat/300020760
Età Rinascimentale	Renaissance	closeMatch	Renaissance	http://vocab.getty.edu/aat/300021140
Età moderna	Modern Age	narrowMatch	Renaissance	http://vocab.getty.edu/aat/300021140
Età moderna	Modern Age	broadMatch	Modern (style or period)	http://vocab.getty.edu/aat/300264736
Età contemporanea	Contemporary Age	broadMatch	Modern (style or period)	http://vocab.getty.edu/aat/300264736
Periodo Laziale IIA1	Latial period IIA1	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Periodo Laziale IIA1	Latial period IIA1	broadMatch	Early Iron Age	http://vocab.getty.edu/aat/300106738
Periodo Laziale IIA1	Latial period IIA1	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IIA2	Latial period IIA2	broadMatch	Early Iron Age	http://vocab.getty.edu/aat/300106738
Periodo Laziale IIA2	Latial period IIA2	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IIB1	Latial period IIB1	broadMatch	Early Iron Age	http://vocab.getty.edu/aat/300106738
Periodo Laziale IIB1	Latial period IIB1	broadMatch	Middle Iron Age	http://vocab.getty.edu/aat/300106739
Periodo Laziale IIB1	Latial period IIB1	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382

Periodo Laziale IIB2	Latial period IIB2	broadMatch	Middle Iron Age	http://vocab.getty.edu/aat/300106739
Periodo Laziale IIB2	Latial period IIB2	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IIIA	Latial period IIIA	broadMatch	Middle Iron Age	http://vocab.getty.edu/aat/300106739
Periodo Laziale IIIA	Latial period IIIA	broadMatch	Late Iron Age	http://vocab.getty.edu/aat/300106745
Periodo Laziale IIIA	Latial period IIIA	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IIIB	Latial period IIIB	closeMatch	Late Iron Age	http://vocab.getty.edu/aat/300106745
Periodo Laziale IIIB	Latial period IIIB	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IVA	Latial period IVA	narrowMatch	Early Orientalizing	http://vocab.getty.edu/aat/300106982
Periodo Laziale IVA	Latial period IVA	narrowMatch	Developed Orientalizing	http://vocab.getty.edu/aat/300106984
Periodo Laziale IVA	Latial period IVA	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Periodo Laziale IVB	Latial period IVB	closeMatch	Late Orientalizing	http://vocab.getty.edu/aat/300106986
Periodo Laziale IVB	Latial period IVB	relatedMatch	Latian	http://vocab.getty.edu/aat/300386382
Orientalizzante antico	Early Orientalizing	closeMatch	Early Orientalizing	http://vocab.getty.edu/aat/300106982
Orientalizzante medio	Developed Orientalizing	closeMatch	Developed Orientalizing	http://vocab.getty.edu/aat/300106984
Prima età regia	Early Roman Kingdom	broadMatch	Monarchic (Roman style or period)	http://vocab.getty.edu/aat/300263281
Seconda età regia	Late Roman Kingdom	exactMatch	Tarquinian (Roman monarchy)	http://vocab.getty.edu/aat/300263282
Età alto-repubblicana	Early Roman Republic	broadMatch	Republican	http://vocab.getty.edu/aat/300020537
Età medio-repubblicana	Middle Roman Republic	broadMatch	Republican	http://vocab.getty.edu/aat/300020537
Età tardo-repubblicana	Late Republican	exactMatch	Late Republican	http://vocab.getty.edu/aat/300020540
Prima età imperiale	Early Imperial	exactMatch	Early Imperial	http://vocab.getty.edu/aat/300107346
Media età imperiale	Middle Imperial	broadMatch	Imperial (Roman)	http://vocab.getty.edu/aat/300020541
Media età imperiale	Middle Imperial	narrowMatch	Antonine	http://vocab.getty.edu/aat/300020560
Media età imperiale	Middle Imperial	narrowMatch	Tetrarchic	http://vocab.getty.edu/aat/300020575
Tarda età imperiale	Late Imperial	broadMatch	Late Antique	http://vocab.getty.edu/aat/300020666
Età Cesariana	Caesarian	exactMatch	Caesarian	http://vocab.getty.edu/aat/300107341
Età Giulio-claudia	Julio-Claudian	exactMatch	Julio-Claudian	http://vocab.getty.edu/aat/300020545
Età augustea	Augustan	exactMatch	Augustan	http://vocab.getty.edu/aat/300020543
Età Tiberiana	Tiberius's Age	broadMatch	Julio-Claudian	http://vocab.getty.edu/aat/300020545
Età Claudia	Claudian	broadMatch	Julio-Claudian	http://vocab.getty.edu/aat/300020545
Età Neroniana	Neronian	broadMatch	Julio-Claudian	http://vocab.getty.edu/aat/300020545
Età Flavia	Flavian	exactMatch	Flavian	http://vocab.getty.edu/aat/300020551
Età Traianea	Trajanic	exactMatch	Trajanic	http://vocab.getty.edu/aat/300107348

Età Adrianea	Hadrianic	exactMatch	Hadrianic	http://vocab.getty.edu/aat/300107350
Età Antonina	Antonine	exactMatch	Antonine	http://vocab.getty.edu/aat/300020560
Età Severiana	Severian	exactMatch	Severan	http://vocab.getty.edu/aat/300020566
Età Dioclezianea	Diocletian's Age	broadMatch	Late Antique	http://vocab.getty.edu/aat/300020666
Età Tetrarchica	Tetrarchic	exactMatch	Tetrarchic	http://vocab.getty.edu/aat/300020575
Età Costantiniana	Constantinian	exactMatch	Constantinian	http://vocab.getty.edu/aat/300020576
Età del Bronzo Recente, fase I	Recent Bronze Age – phase I	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Recente, fase II	Recent Bronze Age – phase II	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Finale	Final Bronze Age	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Finale, fase I	Final Bronze Age – phase I	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Finale, fase II	Final Bronze Age – phase II	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
Età del Bronzo Finale, fase III	Final Bronze Age – phase III	broadMatch	Late Bronze Age	http://vocab.getty.edu/aat/300019278
I secolo d.C.	1st century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
II secolo d.C.	2nd century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
I secolo a.C.	1st century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
II secolo a.C.	2nd century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
IV secolo d.C.	4th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
V secolo d.C.	5th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
VI secolo d.C.	6th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
VII secolo d.C.	7th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
VIII secolo d.C.	8th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
IX secolo d.C.	9th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
X secolo d.C.	10th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XI secolo d.C.	11th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XII secolo d.C.	12th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XIII secolo d.C.	13th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XIV secolo d.C.	14th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XV secolo d.C.	15th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
III secolo a.C.	3rd century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
IV secolo a.C.	4th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
V secolo a.C.	5th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
VI secolo a.C.	6th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247

VII secolo a.C.	7th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
VIII secolo a.C.	8th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
IX secolo a.C.	9th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
X secolo a.C.	10th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XI secolo a.C.	11th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XII secolo a.C.	12th century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XVI secolo d.C.	16th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XVII secolo d.C.	17th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XVIII secolo d.C.	18th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XIX secolo d.C.	19th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
XX secolo d.C.	20th century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del I sec. d.C.	beginning of 1st century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	Second quarter of 1st century.			
Secondo quarto del I sec. d.C.	A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	Third quarter of 1st century.			
Terzo quarto del I sec. d.C.	A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del I sec. d.C.	End of 1st century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Prima metà del I sec. d.C.	First half of 1st century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Seconda metà del I sec. d.C.	Second half of 1st century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
III secolo d.C.	3rd century A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Seconda metà del I sec. a.C.	Second half of 1st century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Prima metà del I sec. a.C.	First half of 1st century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	First quarter of 1st century.			
Primo quarto del I sec. a.C.	B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	Second quarter of 1st century.			
Secondo quarto del I sec. a.C.	B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	Third quarter of 1st century.			
Terzo quarto del I sec. a.C.	B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del I sec. a.C.	End of 1st century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	First quarter of 2nd century.			
Primo quarto del II sec. d.C.	A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
	Second quarter of 2nd century.			
Secondo quarto del II sec. d.C.	A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Terzo quarto del II sec. d.C.	Third quarter of 2nd century.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247

A.D.				
Paleolitico medio	Middle Paleolithic	closeMatch	Middle Paleolithic	http://vocab.getty.edu/aat/300019261
Paleolitico superiore	Upper Paleolithic	closeMatch	Upper Paleolithic	http://vocab.getty.edu/aat/300019262
Paleolitico inferiore	Lower Paleolithic	closeMatch	Lower Paleolithic	http://vocab.getty.edu/aat/300019260
Mesolitico	Mesolithic	closeMatch	Mesolithic	http://vocab.getty.edu/aat/300019264
Fine del V sec. d.C.	End of 5th century. A.D. Beginning of 7th century.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del VII sec. d.C.	AìA.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del II sec. d.C.	End of 2nd century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del IV sec. d.C.	Beginning of 4th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Prima metà del II sec. d.C.	First half of 2nd century. A.D. Second half of 2nd century.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Seconda metà del II sec. d.C.	A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del V sec. d.C.	End of 5th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Prima metà del III sec. a.C.	First half of 3rd century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Prima metà del III sec. d.C.	First half of 3rd century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del V sec. a.C.	End of 5th century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Metà del III sec. a.C.	Middle of 3rd century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del II sec. a.C.	Beginning of 2nd century B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del II sec. a.C.	End of 2nd century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del IV sec. a.C.	End of 4th century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del IV sec. d.C.	End of 4th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del III sec. a.C.	End of the 3rd century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Metà del II sec. a.C.	Middle of 2nd century. B.C.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Età Domizianea	Domitian's Age	broadMatch	Flavian	http://vocab.getty.edu/aat/300020551
Seconda metà del V sec. d.C.	Second half of 5th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Età Vespasianea	Vespasian's Age	broadMatch	Flavian	http://vocab.getty.edu/aat/300020551
Metà del IX sec. d.C.	Middle of 9th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Fine del III sec. d.C.	End of 3rd century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del VI sec. d.C.	Beginning of 6th century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247
Inizio del III sec. d.C.	Beginning of 3rd century. A.D.	relatedMatch	centuries	http://vocab.getty.edu/aat/300379247