European standards for the documentation of historic buildings and their relationship with CIDOC CRM

Paola Ronzino, Nicola Amico, Achille Felicetti and Franco Niccolucci
Aim of the research

• Assessment of the state-of-the-art of European actions for architectural dataset integration

• Mapping of European standard and metadata schemata to CIDOC CRM:
  - to overcome the fragmentation of architectural datasets
  - to create interoperability among datasets of historic buildings

• Mapping of the MA/CA (Archaeological Monuments/Archaeological Complex) form of the MIBAC-ICCD to CIDOC CRM
Built Heritage data harmonizing Actions
Mapping of BH schemas and standards

More than 700 fields with meaning

- **Same**
- **Similar**
- **Different**

More than 300 fields covered by ICCD form
The MA/CA form is used to catalogue archaeological heritage:

- a single monument (a mausoleum, an amphitheatre, a tower, a church, but also a bridge, a section of road, etc.);

- a monumental complex formed by a group of constructions or buildings (a fortified town, a shrine, a thermal complex, etc.).

Includes more than 300 fields (identified by a unique letter code and a name).

Metadata are grouped in ca. 20 sections:

RV – Relationships; LC – Current Location; LS – Historic Location;
RE – Way of discovery; DT – Chronology; AU – Cultural Definition;
DA – Analytical Data; ISR – Inscriptions ...(and more)

Terminology is based on lists of terms

Some fields are associated with Authority files.
MA/CA form: Relations
Archaeological Monument/Archaeological Complex

Relates the monument with other catalogued assets of the same or different category:

• *Is contained in:* the monument relates to another monument (MA) or archeological complex (CA), which represents the monument location at the time of cataloguing;

• *Was found in:* this relation links the monument (MA) or archaeological complex (CA) to the site (SI) form or Stratigraphic Survey (SAS) form documenting where the asset was found;

• *Is involved in:* this documents the connection between the monument, and an event (such as a festivity, celebration, rite, etc.), documented in a form pertaining to intangible heritage;

• *Has environmental/spatial relationships with:* links two monuments that are in the same environmental context

• *Was made in:* this relation links the monument to another archaeological monument or archaeological complex which was its place of production

• *Is reused by:* this links to the monument that reuses part of or the whole monument documented in the MA/CA form;

• *Is documented in:* this links the monument with a document (source, paint, picture, coin ...).
Is contained in: the monument relates to another monument (MA) or archeological complex (CA), which represents the monument location at the time of cataloguing;
RV-I is contained in

Amphitheater Paestum

Archaeological Site Form

Archaeological site of Paestum

Site
MA/CA form: Relations
Archaeological Monument/Archaeological Complex

Was found in: this relation links the monument (MA) or archaeological complex (CA) to the site (SI) form or Stratigraphic Survey (SAS) form documenting where the asset was found;
RV-Was found in

Needs extending CIDOC CRM for a better fit with archaeological documentation
Is involved in: this documents the connection between the monument, and an event (such as a festivity, celebration, rite, etc.), documented in a form pertaining to intangible heritage;
RV-Is involved in

- **Obelisco Vaticano**
- **Piazza S. Pietro**

Diagram: NCT-Monument is involved in Event which took place at Place. Obelisco Vaticano is documented in BDI-Document.
MA/CA form: Relations
Archaeological Monument/Archaeological Complex

*Has environmental/spatial relationships with:* links two monuments that are in the same environmental context
RV-Has environmental/spatial relationship with

Obelisco Flaminio

Piazza del Popolo

Chiese Gemelle
Was made in: this relation links the monument to another archaeological monument or archaeological complex which was its place of production.
The “Tomba Diavolino 1” was dismantled and rebuilt in the garden of the Archaeological Museum of Florence in the late 1800s.
MA/CA form: Relations
Archaeological Monument/Archaeological Complex

Is reused by: this links to the monument that reuses part of or the whole monument documented in the MA/CA form
RV-Is reused by

Virtual reconstruction of the Neapoils Roman Theatre by Nicola Amico
RV-Is reused by
MA/CA form: Relations
Archaeological Monument/Archaeological Complex

*Is documented in*: this links the monument with a document (source, paint, picture, coin ...).
RV-Is documented in
“Al km 17,9 della SS 3 bis Tiberina svoltare per via degli Annibaldi, proseguire per via dell’Artigianato e via del Pian di Sasso fino a raggiungere la località Sassetta”
LS-Historic location

Lago Prile
RE-Way of discovery

Photographic campaign
Photo interpretation
Survey
Agricultural works...

NCT-Monument E22_Man-Made_Object

RCGE-Motivation E5_Event

Acquisition E8_Acquisition

RCGZ-Notes E62_String

RCGA_Scientific_responsible E39_Actor

Survey E7_Activity

RCGM-Methodology E55_Type

Monument_Location E53_Place

P2_has_type

P32_used_general_technique

P17_was_motivated_by

P7_took_place_at

P117_occurs_during

P3_has_note

P14_carried_out_by

P1_is_identified_by

P70i_is_documented_in

NCUN-Survey Code E42_Identifier

RCGS-Bibliography E31_Document

RCGD-Dates E52_Time-Span

RGC-Visibility E55_Type

RCGU-Soil use E55_Type
DT-Chronology

NCT-Monument E22_Man-Made_Object

Monument Creation E12_Production

Period E52_Time-Span

P17_was_motivated_by

P2_has_type

ETZG-Period E13_ATTRIBUTE_ASSIGNMENT

P79_beginning_is_qualified_by

P80s_end_is_qualified_by

DTZS-Fraction E55_Type

DTM-Motivation E11_CRM_Entity

Motivating the Dating E13_ATTRIBUTE_ASSIGNMENT

P17_was_attributed_by

P3_has_note

DTSF-Dating E52_Time-Span

ADT-Other Dating E62_String

DTZS-Start Validity E62_String

DTZS-End Validity E62_String

"sec. I a.C.
sec. II d.C.
Età romana
sec. IV a.C. – V"

*Start end half
First half*
AU-Cultural Definition
AU-Cultural Definition
DA-Analytical Data
ISR-Inscriptions
Marble epistle dedicated to Graziano (Flavius Gratianus - 24.VIII.367-25.VIII.383 d.C.), Valentiniano I (v.) and Teodosio I (v.) by Lucio Valerio Settimio Basso prefect of Roma from 379 to 383 d.C.-
Other MA/CA sections

- CD-AC – Codes;
- OG – Object;
- CS – Cadaster;
- GP-GL-GA – Georeferencing;
- MT – Technical data;
- CO – Conservation;
- RS – Restoration;
- MC – Samples and analyses;

- TU – Legal status;
- DO – Sources;
- AD – Data access;
- CM – Compiler;
- AN – Notes.
Conclusions and further work

• The mapping shows that interoperability of monuments dataset is feasible and interoperability of these repositories at European level would create an infrastructure useful as the forthcoming archaeological one

• Use the mapping of European Standards and metadata schemata to CIDOC-CRM to reach data interoperability without losing information

• Continue the mapping of other ICCD schemata relating to architecture

• Conversion of data encoded with the MA/CA model in a CIDOC-CRM RDF format

• Addressing conservation and restoration
ARIADNE is a project funded by the European Commission under the Community’s Seventh Framework Programme, contract no. FP7-INFRASTRUCTURES-2012-1-313193.

The views and opinions expressed in this presentation are the sole responsibility of the authors and do not necessarily reflect the views of the European Commission.

Thank you for your attention!