## The Functional role of a Minimal Vocabulary

...to be used together with the CIDOC-CRM

The policy of the CRM is to restrict classes to those that appear as specific domains or ranges of CRM properties, because those properties structure the knowledge base and frequently appear hard-coded in the control-software, i.e., data entry, storage and access tools. Therefore they are of much higher priority for system interoperability than the classes without properties, which we model as instances of E55 Type, i.e. as data, as usual in conceptual modelling of databases since their conception.

Nevertheless, in certain cases the CRM makes important and non-obvious ontological distinctions of specialization of CRM classes without assigning specific properties to them. These may differentiate and specialize even substance and identity criteria in a way that has a bearing on the use of properties, as in the case of E10 Transfer of Custody: The kind of transfer of custody, i.e., either field collection, transfer from one keeper to another or loss, can be specified by E55 Type, and consequently the property associating the donor or the receiver will not be used.

These distinctions normally appear in the scope notes with a hint about the need for respective vocabularies. They further appear in examples. Finally, a series of classes have been deprecated because they did not need specific properties, but backwards compatibility would require that they be turned into clearly recommended instances of E55 Type.

Over the past 30 years attempts to harmonize and integrate vocabularies in the cultural heritage (CH) domain have widely failed. Rather, some vocabularies play a more important role, but specialized needs are too abundant to allow for a systematic integration, and volatile vocabularies are an important tool of research in all sciences and humanities.

Therefore, the CRM-SIG will recommend in a document separate from the CIDOC CRM definition only those terms that are regarded to be important for the above-mentioned ontological distinctions, and unambiguous enough to be fixed as standard. These may be linked or integrated as broader or narrower terms into vocabularies of the user's choice, in a way compatible with the meaning of the classes of the CRM where they will be used together.

The CRM-SIG may exemplify this on the base of the Art & Architecture Thesaurus (AAT) or the Backbone Thesaurus (BBT).

Further, CRM will recommend the use of some standard vocabularies for cases in which a good and comprehensive international practice exists, such as measurement units, country codes etc.

## Terms to be used in migration paths for deprecated CIDOC CRM classes

The following is a list of classes and/or properties that have been deprecated between the version 5.0.4 of the CIDOC CRM, which served as community draft for ISO21127:2014, and the two releases that were issued in the context of the publication of the ISO 21127:2023 –namely version 7.1.2 of the CIDOC CEM, which served as the Basis for the initial ISO submission release and version 7.1.3, which mirrors it.

While the CIDOC CRM is developed with the principle of monotonic change, attempting to minimize backwards incompatibility through conservative initial modelling as well as modelling evolution, certain revisions inevitably entail changes to the model which will require an update to knowledge bases based on old versions of the ontology, in order to reconcile instances with the current version.

The following table provide information on which classes have been deprecated and will thus require an update to previous official CRM compliant KBs in order to be in accord with the latest version of the standard. The reader will find in the first table, "Deprecated Class Migration Instructions", classes that have been deprecated and the suggested class or primitive replacement for that class.

### Deprecated Class Migration Instructions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Deprecated Class** | **Migration Instruction** | **Type** | **Scope note** | **SIG agreed recommendation** |
| E38 Image | use E36 Visual Item. P2 has type: “image” |  | **CRM Note:** This class comprises distributions of form, tone and colour that may be found on surfaces such as photos, paintings, prints and sculptures or directly on electronic media. | no recommendation |
| E40 Legal Body | use E74 Group | ID: **300025969** Page Link: <http://vocab.getty.edu/page/aat/300025969>  **corporations** (companies, <business enterprises by form>, ... Organizations (hierarchy name)) | **AAT Note:**Groups of persons, commonly formed as business enterprises, considered in law as legal persons having an existence and rights and duties distinct from those of the individuals who form them. For unincorporated groups of persons contractually associated as joint principals in business, use "partnerships." | provide a list of loose recommendations from AAT that are likely to match kinds of groups documented in projects using the CRM. |
| ID: **300386361**  Page Link: <http://vocab.getty.edu/page/aat/300386361>  **corporate bodies**(organizations (groups), Organizations (hierarchy name)) | **AAT Note:** Organized, identifiable groups of people working together in a particular place and within a defined period of time, including legally incorporated entities and people more loosely bound, such as an artist's workshop, who work together to perform duties or activities. To refer specifically to incorporated groups that are considered in law as legal persons having an existence and rights and duties distinct from those of the individuals who form them, use "corporations." |
| E44 Place Appellation | use E41 Appellation |  |  | no recommendation |
| E45 Address | use E41 Appellation. P2 has type: “address” | ID: **300386983**  Page Link: <http://vocab.getty.edu/page/aat/300386983>  **street addresses** (geographic concepts, physical sciences concepts, ... Associated Concepts (hierarchy name)) | **AAT Note:** Particulars of the place where a person, organization, building, or monument can be found on a street or other thoroughfare; typically consisting of a number, street name, the name of the administrative area (a town or district). May also include a postcode, as the street address may also be the "mailing address." |  |
| E46 Section Definition | use E41 Appellation | ID: **0000049**  Page Link: <https://vocabs.dariah.eu/bbt/Concept/0000049>  **geometric extents** (hierarchy name) | **BBT Note**: This term classifies kinds of designations and definitions of spatial extents based on either geometric expressions or spatial properties of observable features -like mountains, lakes, buildings, cities, etc. -and social constructs -referring to the spatial extent of territories that fall within the jurisdiction of some geopolitical or other administrative unit. NOTE: The terms listed as Geometric extents can be coordinated with the suitable type of phenomenal place, in the sense of CRMgeo, classified accordingly under Physical Features, Built Environment or Geopolitical Units. | provide a list of loose recommendations from BBT that are likely to match kinds of parts of objects that are treated as locations, documented in projects using the CRM |
| ID: **0000050**  Page Link: <https://vocabs.dariah.eu/bbt/Concept/0000050>  **points** (geometric extents (hierarchy name)) | BBT Note: This term classifies zero-dimensional geometric primitives, representing the position [1] of the centroid of a particular feature, on a given surface –irrespective of its actual spatial extent –depending on the scale of the representation (the smaller the scale, the more likely it is for a feature to be thus represented), convenience and the type of feature the points stand for [2]. [1] The OpenGIS; Abstract Specification; Topic 5: Features [2] https://docs.qgis.org/2.8/en/docs/gentle\_gis\_introduction/vector\_data.html#figure-geometry-point NOTE: The terms listed as points can be coordinated with the suitable type of phenomenal place -in the sense of CRMgeo [1] -classified under the hierarchies of Physical Features, Built Environment or Geopolitical Units. |
| ID: **0000053**  Page Link: <https://vocabs.dariah.eu/bbt/Concept/0000053>  **linear extents** (geometric extents (hierarchy name)) | **BBT Note**: This term classifies one-dimensional shapes on a surface that are either straight or curved and can be defined by a connected series of unique x,y coordinate pairs/points forming a continuous path. The said points are all contained in it [1], [2]. Linear extents can be used to show the geometry of linear features such as roads, rivers, contours, footpaths, flight paths and so on. NOTE: The kind of physical feature, built environment or geopolitical unit -or part thereof, f.i. a mountain range, a road, a border between two countries -providing the linear extent can be specified by coordinating this term with the suitable feature type, such as “linear extents of physical features/ built environments/ geopolitical units”. [1] https://docs.qgis.org/2.8/en/docs/gentle\_gis\_introduction/vector\_data.html#figure-geometry-polyline [2] https://en.wikipedia.org/wiki/Line\_(geometry) |
| ID: **0000051**  Page Link: <https://vocabs.dariah.eu/bbt/Concept/0000051>  **surface areas** (geometric extents (hierarchy name)) | **BBT Note:** The term classifies quantities expressing the extent of a two-dimensional feature, figure or shape defined by a connected sequence of x,y coordinate pairs/points, where the first and last coordinate pair/points are the same and all others are unique, thus forming a polygon. The latter can have a shared geometry, i.e. boundaries that are in common with a neighboring polygon. Surface areas can be seen as contiguous projections onto some reference space. Examples of such areas are enclosed spaces like dams, islands, country boundaries and so on. NOTE: The kind of Physical feature, Built environment or Geopolitical unit providing the geometric extent -i.e. a lake, a stadium, a prefecture -can be specified by coordinating this term with the suitable feature type, such as “surface areas of Physical features/ Built environments/ Geopolitical units”. |
| ID: **0000052**  Page Link: <https://vocabs.dariah.eu/bbt/Concept/0000052>  **3d-volumes** (geometric extents (hierarchy name)) | **BBT Note:** This term characterizes physical features or material objects extending in three dimensions/ defined along three axes of a Euclidean space . They can –but need not –be solid and can be reduced to three dimensional polyhedra. NOTE: The kind of Physical feature, Built environment or Geopolitical unit providing the geometric extent -i.e. the bed of a lake filled with water, the volume occupied by a building, or the Exclusive Economic Zone of a sovereign state represented in terms of a 3D volume -can be specified by coordinating this term with the suitable feature type, such as “surface areas of Physical features/ Built environments/ Geopolitical units”. |
| E47 Spatial Coordinates | use E94 Space Primitive |  |  | no recommendation |
| E48 Place Name | use E41 Appellation. P2 has type: “place names” | ID: **300404655**  Page Link: <http://vocab.getty.edu/page/aat/300404655>  **place names** (names, <names and related concepts>, ... Associated Concepts (hierarchy name)) | **AAT Note:** Proper names of geographic locations, such as a nations, empires, towns, villages, hills, or lakes. |  |
| E49 Time Appellation | use E41 Appellation. | ID: **300404439**  Page Link: <http://vocab.getty.edu/page/aat/300404439>  **dates (spans of time)** (<dates and dating systems>, multidisciplinary concepts, Associated Concepts (hierarchy name)) | **AAT Note**: Years, or spans of time, periods, seasons, during which something lasts; the duration or term of existence or during which something happened or is to happen. |  |
| E50 Date | use E61 Time Primitive |  |  | no recommendation |
| E51 Contact Point | use E41 Appellation. P2 has type: “Contact Point” | ID: **300435690**  Page Link: <http://vocab.getty.edu/page/aat/300435690>  **addresses** **(communications concepts)** | **AAT Note**: Designations for locations, either physical or virtual, where a person, corporate body, physical object, Web site, or other thing may be contacted or found.  **CRM Note:** This class comprises identifiers employed, or understood, by communication services to direct communications to an instance of E39 Actor. These include E-mail addresses, telephone numbers, post office boxes, Fax numbers, URLs etc. Most postal addresses can be considered both as instances of E44 Place Appellation and E51 Contact Point. In such cases the subclass E45 Address should be used.  URLs are addresses used by machines to access another machine through an http request. Since the accessed machine acts on behalf of the E39 Actor providing the machine, URLs are considered as instances of E51 Contact Point to that E39 Actor. |  |
| E75 Conceptual Object Appellation | use E41 Appellation |  |  | no recommendation |
| E82 Actor Appellation | use E41 Appellation | ID: **300266386**  Page Link: <http://vocab.getty.edu/page/aat/300266386>  **personal names** (names, <names and related concepts>, ... Associated Concepts (hierarchy name)) | **AAT Note:** The name by which an individual person is identified or known, as distinguished from names for corporate bodies or other entities. |  |
| E82 Actor Appellation | use E41 Appellation | ID: **300445020**  Page Link: <http://vocab.getty.edu/page/aat/300445020>  **corporate names** (names, <names and related concepts>, ... Associated Concepts (hierarchy name)) | **AAT Note:** The legally recognized words or phrases under which a corporate body or institution is known and engages in action. |
| E84 Information Carrier | use E22 Human-Made Object. P2 has type: “information carrier” | ID: **300220751**  Page Link: <http://vocab.getty.edu/page/aat/300220751>  **information forms (objects)** (Information Forms (hierarchy name), Visual and Verbal Communication (hierarchy name)) | **AAT Note:** Types of textual, graphic, electronic, or physical items having the primary and original purpose to record or convey specific information. For forms in the sense of a document having blanks to be filled in, use "forms (documents)."  **CRM Note**: This class comprises all instances of E22 Man-Made Object that are explicitly designed to act as persistent physical carriers for instances of E73 Information Object. |  |

## Restricting types referred to/implied by the scope notes of CIDOC-CRM Classes and properties

### Type restrictions of existing classes

A word or two might be useful.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CRM Class** | **Type specification** | **Type recommendation** | **Scope note** | **SIG agreed recommendation** |
| E4 Period | “geopolitical unit” |  |  |  |
| E10 Transfer of Custody | “legal responsibility”: | ID: **300417644**  Page Link: <http://vocab.getty.edu/page/aat/300417644>  **transfer (method of acquisition)** (methods of acquisition, property-related concepts, ... Associated Concepts (hierarchy name)) | **AAT Note:** Method of acquiring property by legally conferring existing ownership to another person or institution; it does not necessarily involve benefactors. |  |
| “physical possession”: | ID: **300411616** Page Link: <http://vocab.getty.edu/page/aat/300411616>  **possession (property right)** (property rights, property-related concepts, ... Associated Concepts (hierarchy name)) | **AAT Note:** The right or condition of visible power or control over real or other property, defined by the intention to use or to hold it against others, typically as distinct from, or at least not synonymous with, lawful ownership. |  |
| “theft” | ID: **300055292**  Page Link: <http://vocab.getty.edu/page/aat/300055292>  Record Type: concept  **theft (social issue)** (crime (social issue), social issues, ... Associated Concepts (hierarchy name)) | **AAT Note:** The wrongful taking of property with the intention of permanently depriving the rightful owner of it. |  |
| E15 Identifier Assignment | “preferred identifier assignment” |  |  | no recommendation |
| E34 Inscription | “alphabet” | [ISO 15924] Alphabetical list of four-letter script codes  Page Link: <https://www.unicode.org/iso15924/iso15924-codes.html> | **CRM Note:** […] The transcription of the text can be documented in a note by P3 has note: E62 String. The alphabet used can be documented by P2 has type: E55 Type. This class does not intend to describe the idiosyncratic characteristics of an individual physical embodiment of an inscription, but the underlying prototype. […] |  |
| E57 Material |  |  |  | no recommendation |
| E58 Measurement Unit | “measurement unit” | [ISO 80000-1:2009] Quantities and units –Part 1: General  Page Link: <https://www.iso.org/standard/30669.html> | The recommended ISO standard does not cover historical or local units of measurement which may need to be maintained depending on context. |  |

### Restricting the types mentioned in .1 properties

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Typed property** | **Property -Domain** | **Class -Range** | **Type in CRM scope note** | **Type recommendation** | **Scope Note** | **SIG agreed recommendation** |
| P3.1 has type | E1 CRM Entity. P3 has note: E62 String | E55 Type | “type of encoding”,  “type of note” |  |  | no recommendation |
| P14.1 in the role of | E7 Activity. P14 carried out by (performed): E39 Actor | E55 Type | “type of role” |  |  | no recommendation |
| P16.1 mode of use | E7 Activity. P16 used specific object (was used for): E70 Thing | E55 Type | “type of use” |  |  | no recommendation |
| P19.1 mode of use | E7 Activity. P19 was intended use of (was made for): E71 Human-Made Thing | E55 Type | “type of use” |  |  | no recommendation |
| P62.1 mode of depiction | E24 Physical Human-Made Thing. P62 depicts (is depicted by): E1 CRM Entity | E55 Type | “nature of the depiction” | Iconclass Keys | Keys are appended numbers which indicate iconographical details, characterize partial aspects or specify them. |  |
| P67.1 has type | E89 Propositional Object. P67 refers to (is referred to by): E1 CRM Entity | E55 Type |  |  |  | no recommendation |
| P136.1 in the taxonomic role | E83 Type Creation. P136 was based on (supported type creation): E1 CRM Entity | E55 Type | "holotype" | Nomenclatural Type Status Vocabulary  URI <http://rs.gbif.org/vocabulary/gbif/type_status> | A vocabulary to be used for a nomenclatural type status of a specimen or name. See also the related type reason vocabulary. |  |
| P138.1 mode of representation | E36 Visual Item. P138 represents (has representation): E1 CRM Entity | E55 Type |  |  |  | no recommendation |
| P69.1 has type | E29 Design or Procedure. P69 has association with (is associated with): E29 Design or Procedure | E55 Type | type of association |  |  | no recommendation |
| P102.1 has type | E71 Human-Made Thing. P102 has title (is title of): E35 Title | E55 Type | “type of title” | **ID**: 300417193  Page Link: <http://vocab.getty.edu/page/aat/300417193>  **titles (general, names)** (names, <names and related concepts>, ... Associated Concepts (hierarchy name)) | **AAT Note:**Words or phrases, often descriptive or evocative, used to identify or provide reference to a work, including physical works, performances, literary works, and conceptual works. May apply to individual items or works, or to groups or series of items, in any medium. Titles may also be initials, numbers, or symbols. Examples are titles or names of works of art and architecture. For numeric or alphanumeric IDs or codes for uniquely identifying a work, prefer "identification numbers." To refer specifically to titles printed or inscribed on a book or other object, such as on the title page, prefer "titles (partial documents). |  |
| P107.1 kind of member | E74 Group. P107 has current or former member (is current or former member of): E39 Actor | E55 Type | “type of member” |  |  | no recommendation |
| P144.1 kind of member | E85 Joining. P144 joined with (gained member by): E74 Group | E55 Type | “type of membership” |  |  | no recommendation |
| P130.1 kind of similarity | E70 Thing. P130 shows features of (features are also found on): E70 Thing | E55 Type | “type of similarity” |  |  | no recommendation |
| P139.1 has type | E1 CRM Entity. P139 has alternative form (is alternative form of): E41 Appellation | E55 Type | “type of alternative for” |  |  | no recommendation |
| P137.1 in the taxonomic role | E1 CRM Entity.P137 exemplifies (is exemplified by): E55 Type | E55 Type | “type of taxonomic role” | GBIF (for natural history and ceramic classification)  Nb. Other vocabularies may be suitable for things like archival description fonds. |  |  |
| P189.1 has type |  | E55 Type |  |  |  | no recommendation |

## Works Cited

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