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MiCA White Paper
XBRL Taxonomy Documentation

Structure and content of MiCA XBRL Taxonomy

1 Contents

2 Introduction

This document presents and explains the architecture and content of the MiCA taxonomy and provides information about the XBRL features applied.

The expected direct audience of this document are software developers working for issuers of crypto-assets, offerors, persons seeking admission to trading of crypto-assets and crypto-asset service providers subject to the requirements of the Regulation (EU) 2023/1114[1], and more particularly to the reporting requirements contained in the Implementing Technical Standards (ITS) – regulation (EU) 2024/2984 - with regard to forms, formats and templates for the crypto-asset white papers.

3 MiCA taxonomy

3.1 General design

The MiCA taxonomy architectural approach relies on a specific structure of taxonomy files, embeds relationships to other taxonomies, and is based on specific XBRL Specifications and Registry versions.

The MiCA taxonomy is a closed/fixed taxonomy and hence it is not intended for further extensions.

3.2 XBRL specifications applied

The MiCA taxonomy applies the following XBRL Specifications and Registries:

- XBRL 2.1
- Dimensions 1.0
- Generic Link 1.0
- Generic Labels 1.0
- Extensible Enumerations 2.0
- Formula 1.0
- Taxonomy Packages 1.0
- LRR 2.0
- DTR 1.1 (2022-03-31)
- Functions registry

[1] See: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023R1114

3.3 Relation to other taxonomies

3.3.1 LEI taxonomy

The XBRL International LEI taxonomy[2] is imported by MiCA taxonomy to provide the means to report and verify the validity of the LEI.

3.3.2 Country and currency taxonomies

The XBRL International Country and Currency taxonomies[3] are imported by MiCA taxonomy to provide standardised way of reporting ISO 3166 country codes and ISO 4217 currency codes.

The codes defined by these taxonomies are linked in the MiCA taxonomy through enumeration elements.

3.4 Structure and content

3.4.1 Root location and namespaces URI

The root Unique Resource Identifier (URI) applied to folder paths and XML namespaces is *https://www.esma.europa.eu/taxonomy/* followed by the underlying standards publication date (*{date}*) component in YYYY-MM-DD format.

3.4.2 Taxonomy files

The list of MiCA taxonomy files, their role and content, are presented in Table 1.

TABLE 1. MICA TAXONOMY FILES, THEIR ROLE AND CONTENT.

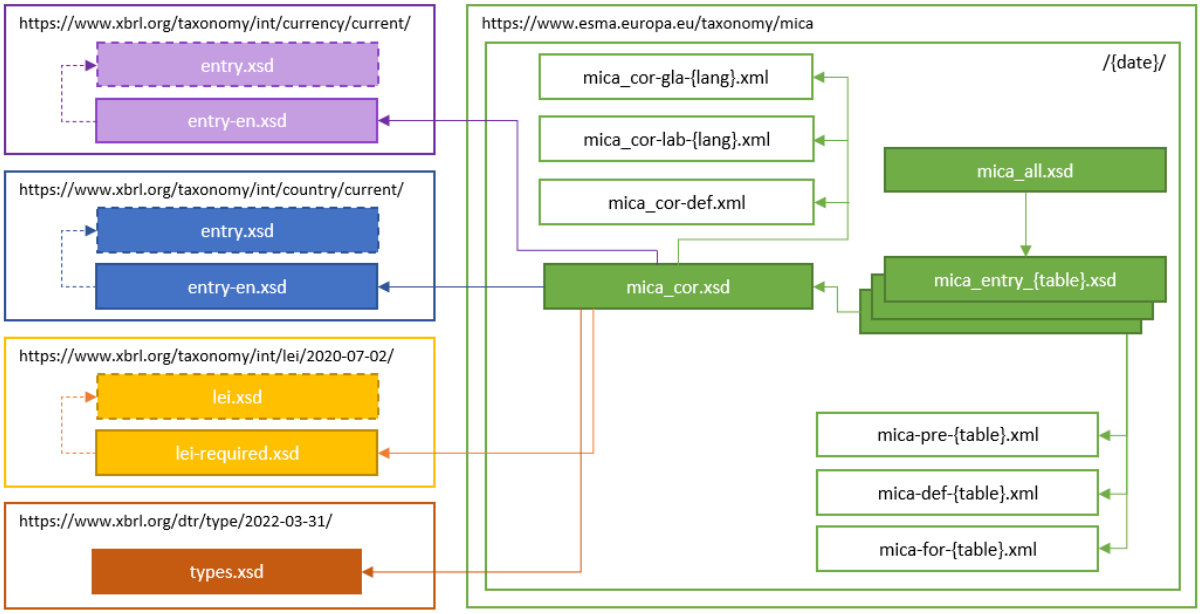
File name	Content and role
mica_cor.xsd	▪ Imports LEI XBRL Taxonomy; ▪ Imports Currency Taxonomy; ▪ Imports Country Taxonomy; ▪ Imports DTR 1.1 (2022-03-31) ▪ Defines MiCA taxonomy elements corresponding to the ITS fields; and extended link roles used in referred presentation and definition linkbase; ▪ Refers to a definition linkbase file *mica_cor-def.xml* and label linkbase file *mica_cor-lab-en.xml*
mica_all.xsd	▪ Serves as a technical entry point to be used for browsing the complete contents of the MiCA taxonomy; ▪ Imports specific entry points corresponding to the templates for Table 2, Table 3 and Table 4 as specified in the Annex of the ITS of the regulation (EU) 2024/2984

[2] See: https://taxonomies.xbrl.org/taxonomy/87
[3] See: https://specifications.xbrl.org/spec-group-index-taxonomies.html

File name	Content and role
mica_entry_{table}.xsd	▪ Serves as an entry point to be used for browsing a particular subset of MiCA taxonomy contents; ▪ Refers to a presentation, definition and formula linkbase files associated with a selected table ▪ {table} corresponds to the table number as indicated in the annex of the ITS.
mica_cor-lab-{lg}.xml	▪ Contains labels of all MICA taxonomy elements defined in *mica_cor.xsd* schema file; ▪ *{lg}* is ISO 639-1 language code (e.g. *"en"* for English); standard and documentation labels are available in all official EU languages;
mica_cor-def.xml	▪ Referenced from *mica_cor.xsd*; ▪ Contains an extended link role defining extensible enumeration domains.
mica-pre-{table}.xml, mica-def-{table}.xml	▪ Referenced from *mica_entry_{table}.xsd* entry points; ▪ Contain relationships between MiCA taxonomy elements to form white paper reporting templates for offerors and crypto-asset providers ▪ {table} corresponds to the table number as indicated in the ITS.
mica-for-{table}.xml	▪ Referenced from *mica_entry_{table}.xsd* entry points; ▪ Defines XBRL existence and value assertions that can be performed on a report for some quality check and compliance tests;

The structure of the MiCA taxonomy files, the dependencies between them and the relation to other taxonomy files is presented on Figure 1 below.

FIGURE 1. STRUCTURE OF THE MICA TAXONOMY FILES, DEPENDENCIES BETWEEN THEM AND THE RELATION TO OTHER TAXONOMY FILES.



3.4.3 Element declarations

The MiCA taxonomy contains definitions of reportable concepts (items), non-reportable concepts (abstracts) and dimensional constructs (hypercubes, dimensions and domain members).

All concepts are defined in item substitution group or derived from it (hypercubeItem for hypercubes and dimensionItem for dimensions). All concepts are nillable (@nillable="true") hence, they can be reported as nilled (@xsi:nil="true"). Although semantically unimportant, values of @id attribute (used for the purpose of creating links in XLink) are constructed basing on the pattern: {recommended prefix}_{element name}.

All MiCA taxonomy elements are defined in *mica_cor.xsd* schema file in namespace *https://www.esma.europa.eu/taxonomy/{date}/mica* with canonical prefix *mica*.

Naming patterns and application of attributes follow the IFRS Taxonomy element definition conventions[4]. Labels are defined in *mica_cor-lab-{lg}.xml* where *{lg}* is ISO 639-1 language code.

3.4.3.1 Reportable concepts

Definition of reportable (non-abstract, i.e. *@abstract="false"*) concept at minimum consist of:

- unique local (within a namespace) name,
- indication of a period type,
- identification of a data type.

[4] IFRS Taxonomy architecture, available at: https://www.ifrs.org/issued-standards/ifrs-taxonomy/ifrs-taxonomy-architecture/

Names of reportable concepts are corresponding to the L3C (Label CamelCase Concatenation) representation of meaningful standard labels in English.

Value of *@periodType* attribute is either instant for these concepts that are reported at a point of time (as of specified date) or duration for concepts representing flows and changes (between specified dates or infinite). In cases where the period type is not obvious, the period type attribute is set to duration. This information must be taken into consideration in instance document when constructing contexts for facts based on reportable concepts.

3.4.3.2 Data types

Data type defines constraints on possible to report values. It is assumed that MiCA taxonomy may apply any of the standard XBRL data types[5] as well as additional types as stemming from the Data Type Registry 1.1 or other specifications, as applied in the MiCA taxonomy. Currently, the MiCA taxonomy make use of the following data types for reportable concepts:

- stringItemType (base XBRL type),
- booleanItemType (base XBRL type),
- dateItemType (base XBRL type)
- monetaryItemType (base XBRL type),
- decimalItemType (base XBRL type),
- integerItemType (base XBRL type),
- domainItemType (as per DTR 1.1),
- energyItemType (as per DTR 1.1),
- ghgEmissionsItemType (as per DTR 1.1),
- massItemType (as per DTR 1.1),
- percentItemType (as per DTR 1.1),
- textBlockItemType (as per DTR 1.1),
- volumeItemType (as per DTR 1.1),
- enumerationItemType (Extensible Enumerations 2.0. Specification type)[6],
- enumerationSetItemType (Extensible Enumerations 2.0. Specification type),
- leiItemType (as per LEI taxonomy).

All elements that are used as to be serving as dropdown lists are defined in accordance with the Extensible Enumerations 2.0 specification. Those elements are defined in the *mica_cor.xsd* with either the *enum2:enumerationItemType* data type (used for single selection from the list) or *enum2:enumerationSetItemType* data type (used for multiple selection from the list) and are described with additional attributes:

- enum:linkrole pointing to ELR with the hierarchy defined for the enumeration options,
- enum:domain pointing to the parent domain member storing the enumeration options,
- enum:headUsable describing the usability of the parent domain member.

[5] As defined in http://www.xbrl.org/2003/xbrl-instance-2003-12-31.xsd
[6] As defined in https://www.xbrl.org/2020/extensible-enumerations-2.0.xsd

Elements treated as enumeration options are defined as domain members and structured within the Definition linkbase.

3.4.3.3 Abstract constructs

All non-reportable concepts have @abstract="true".

Names of abstract constructs are corresponding to the L3C (Label CamelCase Concatenation) representation of meaningful standard labels in English followed by the word Abstract in order not to occupy meaningful names that may be otherwise assigned to reportable concepts and differentiate from other constructs.

Although it is semantically unimportant, all abstracts should have @periodType="duration" and @dataType="stringItemType".

3.4.3.4 Dimensional constructs

Definition of dimensional constructs are following the rules of the XBRL Dimensions 1.0 specification and the recommendations and deliverables of the XBRL International Working Group on Interoperable Taxonomy Architecture.

According to the above, all dimensional constructs are defined as abstracts *(@abstract="true"*). Moreover, hypercubes should be defined in *hypercubeItem* and dimensions in *dimensionItem* substitutions groups[7], data type of domain members are domainItemType[8], and, although semantically unimportant, all dimensional constructs have *@periodType="duration"* and hypercubes and dimensions have *@dataType="stringItemType"*.

Names of dimensional constructs are corresponding to the L3C (Label CamelCase Concatenation) representation of meaningful standard labels in English followed by one of the following words:

- *Table* for hypercube items,
- *Axis* for dimension items,
- *Member* for domain member items (except of enumeration options),

in order not to occupy meaningful names that may be otherwise assigned to reportable concepts and differentiate from other constructs.

The MiCA taxonomy defines a number of typed dimensions and hence also typed domains. These are used to allow for granular representation of data related to enumeration of persons, to be disclosed in the white papers. Typed dimensions are defined as 'artificial' line identifiers to enable data input by taxonomy users. Definition of a typed domain must consist of a *@name, @dataType* and *@id* (semantically unimportant but required in order to reference from a declaration of a typed dimensions). Names of typed domains reflect the camel-case description of their content. *@dataType* of typed domains is integer (XML Schema data type).

[7] As defined in http://www.xbrl.org/2005/xbrldt-2005.xsd
[8] As defined in http://www.xbrl.org/dtr/type/nonNumeric-2009-12-16.xsd

3.4.4 Definition of relationships

All roles used on extended links (ELRs) in presentation, definition and formula linkbases are defined in *mica_cor.xsd* schema file.

In general, the role URIs (follow the pattern: *https://www.esma.europa.eu/xbrl/role/mica-{component}* where *{component}* identify the table number as defined in the ITS.

3.4.5 Report and data quality checks

The MiCA taxonomy does not make use of XBRL calculation linkbase, however defines a number of logical and existence checks which are covered by means of XBRL Formula Specification assertions.

These include:

- Existence assertions verifying if a given ITS field is reported in the corresponding inline XBRL document
- Value assertions verifying the conditionality of given ITS fields and whether they are reported in specific reporting scenarios by preparers.
- Additional checks validating the correct application of LEI identifier (referenced from the Legal Entity Identifier Taxonomy as developed by XBRL International).

Each assertion is defined with issue severity warning or error, using mechanisms defined by the XBRL Assertions Severity 2.0 specification[9]. Each assertion defined in the MiCA taxonomy provides a human readable error description in English defined according to the Generic Messages specification.

The MiCA taxonomy defines 257 existence assertions (72 for Table 2; 103 for Table 3 and 82 for Table 4) as well as 223 value assertions (139 for Table 2; 62 for Table 3 and 22 for Table 4) that are MiCA-specific. Moreover, 6 additional value assertions are derived from the LEI taxonomy. Checks that may be executed on an actual filing are defined in the formula linkbase *mica-for-{table}.xml* referenced from the respective entry points.

3.4.6 Entry points

The MiCA Taxonomy defines four entry points:

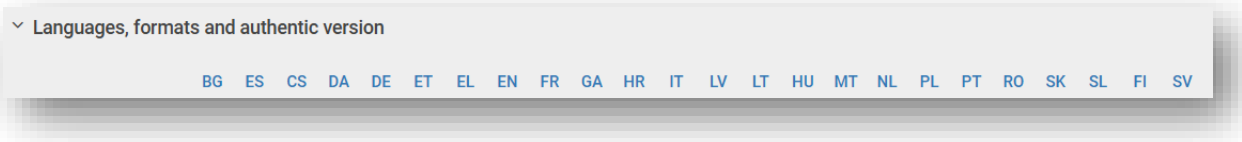
- Entry points to be used by reporting entities when preparing their reports:
    - *mica_entry_table_2.xsd,* to be used to view the *Table 2* contents of the taxonomy: it imports/refers to selected MiCA taxonomy files including linkbases relevant for table 2.

[9] See: https://www.xbrl.org/Specification/assertion-severity/REC-2022-07-21/assertion-severity-REC-2022-07-21.html

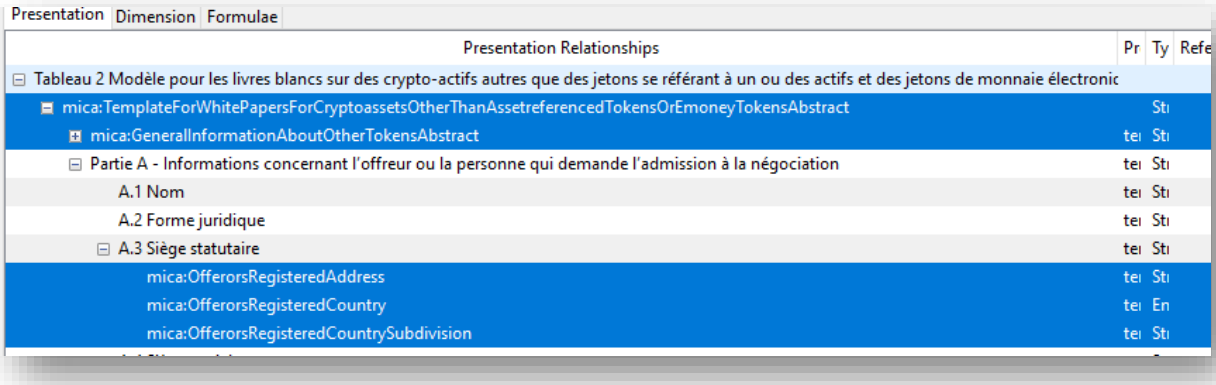
- *mica_entry_table_3.xsd,* to be used to view the *Table 3* contents of the taxonomy: it imports/refers to selected MiCA taxonomy files including linkbases relevant for table 3.
- *mica_entry_table_4.xsd,* to be used to view the *Table 4* contents of the taxonomy: it imports/refers to selected MiCA taxonomy files including linkbases relevant for table 4.

- Technical entry point to be used by software providers only:
  - *mica_all.xsd,* to be used to view the full content of the taxonomy: it imports or refers to all MiCA taxonomy files including all linkbases. Please note that this entry point shall not be referenced by reporting entities in their inline XBRL submissions.

3.4.7 Translation of fields for all EU official languages



- MiCA White Paper taxonomy is (partially) translated into 24 official languages of the EU; reportable fields are translated as per the related technical standards.
- Taxonomy-wise, only terse labels (the ones with ordering component from the ITS) of subset of all taxonomy elements are provided in multiple languages. Abstract elements added for grouping purposes are not translated either. Depending on tools, English labels may be displayed instead.
- For fields for which it was decided to provide more granular representation in XBRL, no terse labels were provided with ordering component (as they are not reflected in the ITS) hence are not provided with translated labels. Instead, such fields are defined under an abstract element that is defined with terse label in line with the technical standards (and hence translated).
- Titles of tables (ELRs) are translated as well.



3.5 Taxonomy updates and publication

3.5.1 Future updates

If necessary, ESMA will publish future taxonomy updates on its website.

Taxonomy releases will be distinguished using a date component on the root folder and in the taxonomy namespace (see section 3.4.1).

3.5.2 Publication

The MiCA taxonomy is available on ESMA's website and published as a package according to the XBRL Taxonomy Packages 1.0 specification[10] . It is registered in the XBRL Taxonomy Registry[11].

[10] Taxonomy Packages 1.0, available at: https://specifications.xbrl.org/work-product-index-taxonomy-packages-taxonomy-packages-1.0.html
[11] XBRL Taxonomy Register available at: https://taxonomies.xbrl.org/