



lido-schema.org

LIDO Introduction

Lightweight Information Describing Objects
LIDO v1.1

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Who provides this training?

Consortium NFDI4Culture

Consortium for Research Data on
Material and Immaterial
Cultural Heritage

Since 2020 (DFG: 441958017)

Task Area 2: Standards, data quality and curation

TA2-M3-T4 LIDO:

Further development of LIDO on the basis of requirements from the specialist communities, especially art history, musicology, theater and media studies, and architecture

<https://nfdi4culture.de/>

Gefördert durch die
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LIDO-DE AG

LIDO-DE AG: working group of the specialist group
Museum Documentation in the German Museum
Association



<https://www.museumsbund.de/fachgruppe-dokumentation/arbeitsgruppen/ag-datenaustausch/>

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Overview: LIDO Introduction

1. Why LIDO?
2. History and Background
3. Benefits of LIDO
4. Contents of a LIDO Record
5. LIDO Application Profiles
6. Summary
7. Helpful Materials/Links



1.1

Why LIDO?



Why LIDO?

The **metadata schema** LIDO (Lightweight Information Describing Objects) was developed to be used as a harvesting format, i.e. as a data format that can be used **to make object data available for publication**.

Why LIDO?

Descriptions of collection objects can contain a variety of **information related to**

- the (physical or digital) **object**,
- the **record/metadata** (metadata = data about data),
- and **digital representations of the object** (e.g. images, scans, videos).

Example Object: „Honeysuckle Bower“

Peter Paul Rubens and Isabella Brant in the Honeysuckle Bower

Object information in the museum's online database:

Peter Paul Rubens, Rubens und Isabella Brant in der Geißblattlaube, um 1609/10, Bayerische Staatsgemäldesammlungen - Alte Pinakothek München, URL:
<https://www.sammlung.pinakothek.de/de/artwork/o5xrMER47X>
(Last updated on 28.08.2023)

LIDO example record from the LIDO Profile Painting and Sculpture:

Knaus, Gudrun; Kailus, Angela; Stein, Regine, 2022,
"Peter_Paul_Rubens_Honeysucklebower_Alte_Pinakothek_en_v.1.1.xml", LIDO-Handbuch für die Erfassung und Publikation von Metadaten zu kulturellen Objekten - Band 2: Malerei und Skulptur [Anwendungsbeispiele], <https://doi.org/10.11588/data/CHEPS6/DYKSSM>, heiDATA, V3

Information Related to the Object

Title:	Peter Paul Rubens and Isabella Brant in the Honeysuckle Bower
Object/work type:	Painting
Artist:	Peter Paul Rubens
Date of production:	Between 1609 and 1610
Place of production:	Antwerp
Subject:	Peter Paul Rubens, Isabella Brant, Marriage, Honeysucklebower, ...
...	

Information Related to the Record/Metadata

Record 1

Record source: Bayerische Staatsgemäldesammlungen - Alte Pinakothek
Record type: Item-level record (single object)
Record link: <https://www.sammlung.pinakothek.de/de/artwork/o5xrMER47X>

...

Record 2

Record source: Deutsches Dokumentationszentrum für Kunstgeschichte - Bildarchiv Foto Marburg
Record type: Item-level record (single object)
Record link: <https://www.bildindex.de/document/obj00060207>

...

Information Related to the Digital Representation (Resource)

Image link: https://res.cloudinary.com/tne/image/authenticated/s--kAZIN-Uj-/q_80/artworks/PETER-PAUL-RUBENS_RUBENS-UND-ISABELLA-BRANT-IN-DER-GEISSBLATTLAUBE_CC-BY-SA_BSTGS_334.jpg

Image rights: [CC BY-SA 4.0](#) (Attribution-ShareAlike 4.0 International)

...

Why LIDO?

LIDO provides a structure for these different types of information:

Descriptive Metadata

- Information about the **object**

Administrative Metadata

- Information about **object** rights
- Information about the **record/metadata**
- Information about **resources (representations of the object)**,
e.g. images, scans, videos...

Why LIDO: LIDO Helps to „Translate“ Data

- With the help of LIDO, object (meta)data from local cataloging/indexing structures can be "**translated**" in such a way that it can also be understood in a new context (e.g. in an online portal alongside data from other institutions).

Translation

Museum



Online Portal

- local database field structure
- Indexing/cataloging of objects according to specific guidelines
- **exports** object data from the local database (e.g. as LIDO data)

- takes the object data from museums and **imports** the data into its portal database
- the publishing of object data via an online portal puts your data into a new context
 - different field structure/grouping of fields
 - different field names/labels
 - different vocabularies

Irritation?
Misunderstandings?

Data Export

entry mask

Datenbank · Bearbeiten · Satz · Feld · Neue Position · Bildschirm · Hilfe	
Laufende Nummer	TEST00136
Inventarnummer	25371
Objekttitel	Die vier apokalyptischen Reiter
Datierung	1496/1498
Literatur	Bartsch VII.128.64
HERSTELLUNG	
KÜNSTLER/PERSON	
Name	Dürer, Albrecht
Rolle	Inventor
Rolle	Holzschnieder
Rolle	Drucker
Herstellungsort	Nürnberg

#KNORR

KNORR(LAUFNR 'TEST00136' INVNR '25371' OBJTITEL 'Die vier apokalyptischen Reiter' DAT '1496/1498' LITERATUR 'Bartsch VII.128.64' HERST(HERSTELLER(HERSTPERS 'Dürer, Albrecht' HERSTPERSROLL 'Inventor' HERSTPERSROLL 'Holzschnieder' HERSTPERSROLL 'Drucker') HERORT 'Nürnberg') BDATUM '2015.01.23');

data export: xml

```
<?xml version="1.0" encoding="Windows-1252"?>
<GOS2XML>
<KNORR>
<LAUFNR>TEST00136</LAUFNR>
<INVNR>25371</INVNR>
<OBJTITEL>Die vier apokalyptischen Reiter</OBJTITEL>
<DAT>1496/1498</DAT>
<LITERATUR>Bartsch VII.128.64</LITERATUR>
<HERST>
<HERSTELLER>
<HERSTPERS>Dürer, Albrecht</HERSTPERS>
<HERSTPERSROLL>Inventor</HERSTPERSROLL>
<HERSTPERSROLL>Holzschnieder</HERSTPERSROLL>
<HERSTPERSROLL>Drucker</HERSTPERSROLL>
</HERSTELLER>
<HERORT>Nürnberg</HERORT>
</HERST>
<BDATUM>2015.01.23</BDATUM>
</KNORR>
</GOS2XML>
```

saved data

```
00000000h: 23 21 67 6F 73 20 4D 4C 45 4E 47 54 48 3D 3D 20 ; lido-MLENGTH=-
00000010h: 36 20 4C 53 42 20 66 69 72 73 74 D9 00 01 00 01 ; 6 LSB first0...
00000020h: 00 0F 00 02 00 02 00 54 45 53 54 30 30 31 33 36 ; .....TEST00136
00000030h: 0B 00 02 00 03 00 32 35 33 37 31 25 00 02 00 20 ; .....25371%...
00000040h: 00 44 69 65 20 76 69 65 72 20 61 70 6F 6B 61 6C ; .Die vier apokal
00000050h: 79 70 74 69 73 63 68 65 6E 20 52 65 69 74 65 72 ; yptischen Reiter
00000060h: 0F 00 02 00 38 00 31 34 39 36 2F 31 34 39 38 18 ; ...8.1496/1498.
00000070h: 00 02 00 3A 00 42 61 72 74 73 63 68 20 56 49 49 ; ....Bartsch VII
00000080h: 2E 31 32 38 2E 36 34 5D 00 01 00 3D 00 49 00 01 ; .128.64)%=..I..
00000090h: 00 3F 00 15 00 02 00 40 00 44 FC 72 65 72 2C 20 ; ?..0.Dürer,
000000a0h: 41 6C 62 72 65 63 68 74 0E 00 02 00 41 00 49 6E ; Albrecht....A.In
000000b0h: 76 65 6E 74 6F 72 13 00 02 00 41 00 48 6F 6C 7A ; ventor....A.Holz
000000c0h: 73 63 68 6E 65 69 64 65 72 0D 00 02 00 41 00 44 ; schneider....A.D
000000d0h: 72 75 63 6B 65 72 0E 00 02 00 48 00 4E FC 72 6E ; rucker....H.Nurn
000000e0h: 62 65 72 67 10 00 02 00 8E 00 32 30 31 35 2E 30 ; berg....2.2015
000000f0h: 31 2E 32 33 ; 1.23
```

LIDO Data Export

data export: LIDO xml

```
--<lido:lido>
--<!--
   Term from the LIDO Terminology in @lido:type: "URI"
   ISIL (International Standard Identifier for Libraries and Related Institutions)
-->
--<lido:lidoRecID lido:type="http://terminology.lido-schema.org/lido00099" lido:source="https://ld.zdb-services.de/resource/organisations/DE-Mb112/lido-obj00154983">
</lido:lidoRecID>
--<lido:descriptiveMetadata xml:lang="en">
--<lido:objectClassificationWrap>
--<lido:objectWorkTypeWrap>
--<lido:objectWorkType>
--<!--
   Term from the Getty Art & Architecture Thesaurus (AAT) in @rdf:about: http://vocab.getty.edu/aat/300033618
-->
--<skos:Concept rdf:about="http://vocab.getty.edu/aat/300033618">
  <skos:prefLabel xml:lang="en">Paintings</skos:prefLabel>
</skos:Concept>
</lido:objectWorkType>
</lido:objectWorkTypeWrap>
</lido:objectClassificationWrap>
--<lido:objectIdentificationWrap>
--<lido:titleWrap>
--<!--
   Term from the Getty Art & Architecture Thesaurus (AAT) in @Lido:type: "Preferred Name"
-->
--<lido:titleSet lido:type="http://vocab.getty.edu/aat/300417206">
  <lido:appellationValue lido:pref="http://terminology.lido-schema.org/lido0016">
</lido:titleSet>
</lido:titleWrap>
</lido:objectIdentificationWrap>
</lido:descriptiveMetadata>
--<lido:administrativeMetadata xml:lang="en">
--<lido:recordWrap>
```



LIDO XML

- LIDO is defined in the **XML Schema Language**.
- LIDO data is provided as **XML data**.

```
<!--<lido:lidoWrap xsi:schemaLocation="http://www.lido-schema.org http://www.lido-schema.org/schema/v1.1/lido-v1.1.xsd">
  <lido:lido>
    <lido:lidoRecID lido:type="local">DE-Mb112/lido-obj00154983</lido:lidoRecID>
    <lido:descriptiveMetadata xml:lang="en">
      <lido:objectClassificationWrap>
        <lido:objectWorkTypeWrap>
          <lido:objectWorkType>
            <lido:term>Painting</lido:term>
          </lido:objectWorkType>
        </lido:objectWorkTypeWrap>
      </lido:objectClassificationWrap>
      <lido:objectIdentificationWrap>
        <lido:titleWrap>
          <lido:titleSet>
            <lido:appellationValue xml:lang="it">La Primavera</lido:appellationValue>
          </lido:titleSet>
        </lido:titleWrap>
      </lido:objectIdentificationWrap>
    </lido:descriptiveMetadata>
    <lido:administrativeMetadata xml:lang="en">[...] </lido:administrativeMetadata>
  </lido:lido>
</lido:lidoWrap>
```



LIDO Export from Local Databases

- export features/options are **software-specific**
- does your software have a LIDO export function?
 - if yes: very good!
 - Does the export have to be adjusted to your needs?
 - if not:
 - Does the software have any other data export function (text, xml, csv, excel) that can be converted to LIDO? => Programs/scripts for data conversion/transformation are necessary.

1.2

History and Background

LIDO: History (in short)

Since 2009 development of LIDO by [CIDOC LIDO Working Group](#)

CIDOC = International Committee for Documentation (in ICOM)

ICOM = International Council of Museums

2010 publication of [LIDO v1.0](#)

Since 2014 development of the LIDO Terminology

2021 publication of [LIDO v1.1](#)



LIDO: History (more detailed)

2006 Publication of the harvesting format **CDWA Lite**

- CDWA (Categories for the Description of Works of Art)

2007 Publication of the harvesting format **museumdat**

- by a working group of the specialist group Museum Documentation in the German Museum Association
- as a generalisation of CDWA Lite, usable for all types of objects/works

2008 **CDWA Lite / museumdat Working Group**

- aim: development of a common schema

LIDO: History (more detailed)

2008-2011 [ATHENA Project \(Europeana\)](#)

Since 2009 [CIDOC LIDO Working Group](#)

- (formerly: Data Harvesting and Interchange Group)
- CIDOC = International Committee for Documentation (ICOM)
- ICOM = International Council of Museums
- Integration of [Spectrum](#) (UK) into the development of LIDO



2010 Publication of **LIDO v1.0** during [ICOM-CIDOC Conference](#)

Since 2010 use of LIDO as harvesting format/delivery format for online portals (like [Europeana](#) and [German Digital Library \(DDB\)](#))

LIDO: History (more detailed)

Since 2014 **development of LIDO Terminology** (LIDO-AG, DDB)

- **2016 release of the first LIDO Terminology vocabularies**

2017 determination of requirements for the next LIDO version

2019-2022 [**KONDA**](#) project

- LIDO v1.1, further development of LIDO Terminology
- Handbooks Painting and Sculpture, Architecture

2020 presentation of LIDO v1.1 beta during CIDOC Conference

2021 **publication of LIDO v1.1** and presentation during [CIDOC Conference 2021/2022](#)

- LIDO v1.1, is backwards compatible to LIDO v1.0
a valid LIDO v1.0 record is also a valid LIDO v1.1 record

Since 2020 further development and dissemination of LIDO by [**NFDI4Culture**](#)

2023 release of further LIDO Terminology vocabularies



LIDO: Background

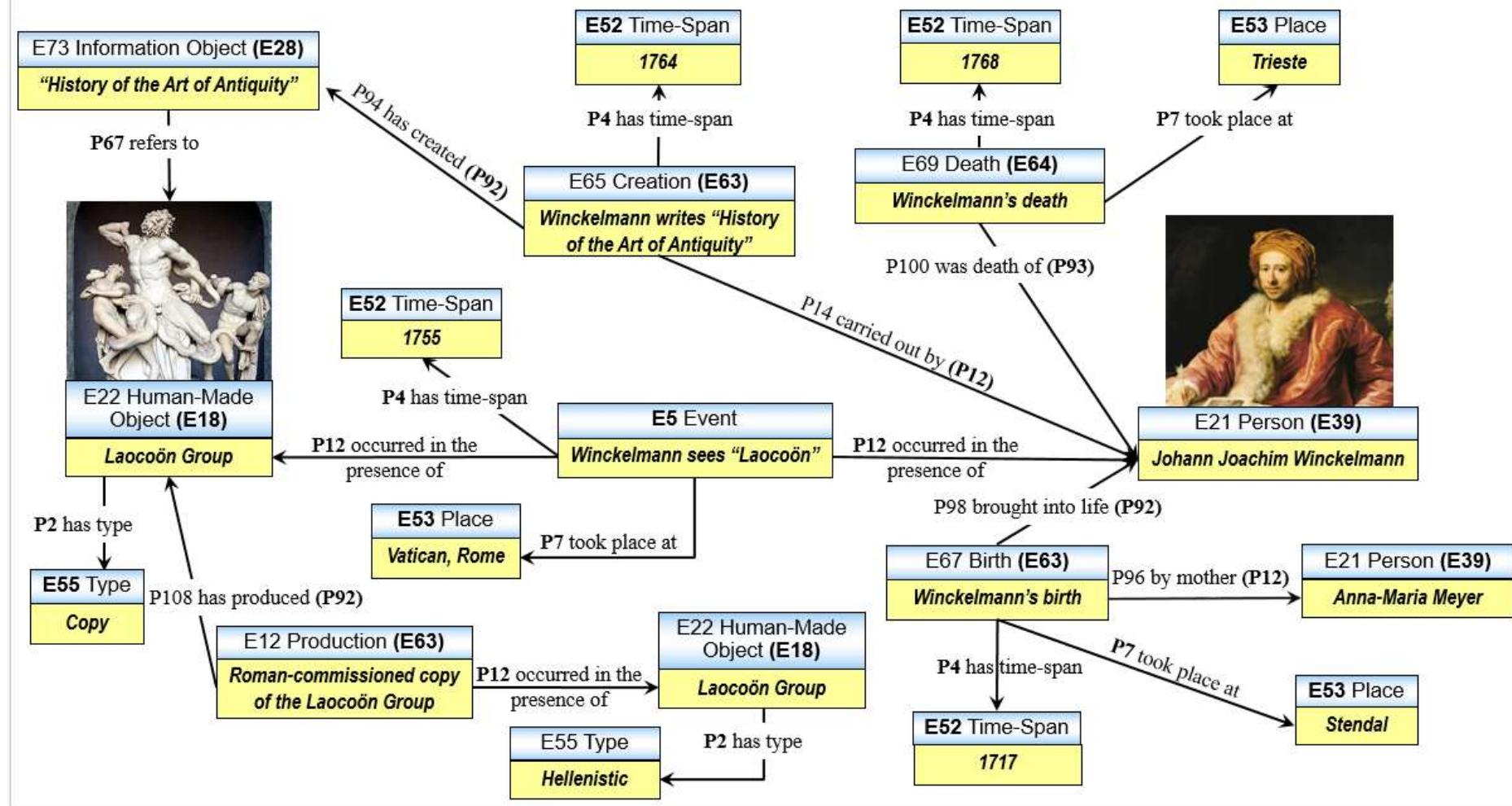
LIDO builds upon several pre-existing standards and guidelines for the description of cultural objects and metadata exchange. The LIDO schema

- integrates and **extends** [CDWA](#) Lite (XML Schema)
([CDWA](#) = Categories for the Description of Works of Art, [Short version](#))
=> LIDO can be used for **all kinds of objects**
- is underpinned by the [CIDOC-CRM](#)
(CRM = CIDOC Conceptual Reference Model)
CIDOC-CRM is a formal domain ontology for cultural heritage information
=> LIDO has an **event-centric approach**
- incorporates some information units from [Spectrum](#) definitions
(Spectrum = UK museum collections management standard)
=> LIDO takes into account **collection management** requirements

CIDOC-CRM

CIDOC CRM Class Declarations....

- E1 CRM Entity.....
- E2 Temporal Entity.....
- E3 Condition State.....
- E4 Period.....
- E5 Event.....
- E6 Destruction.....
- E7 Activity.....
- E8 Acquisition.....
- E9 Move.....
- E10 Transfer of Custody.....
- E11 Modification.....
- E12 Production.....
- E13 Attribute Assignment.....
- E14 Condition Assessment.....
- E15 Identifier Assignment.....
- E16 Measurement.....
- E17 Type Assignment.....
- E18 Physical Thing.....
- E19 Physical Object.....
- E20 Biological Object.....
- E21 Person.....
- E22 Human-Made Object.....



https://www.cidoc-crm.org/html/cidoc_crm_v7.1.2.html (more recent versions are available)

LIDO: Development

CIDOC LIDO Working Group

CIDOC = International Committee for Documentation (in ICOM)

ICOM = International Council of Museums

Mailing list: <https://www.lists.uni-marburg.de/lists/sympa/info/lido-wg>

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1.3

Benefits of LIDO



Benefits of LIDO: Standardization

LIDO combines a lot of knowledge about the documentation/cataloging of (museum) objects. It is based on other long tested standards.

A **LIDO-compliant cataloging database/collection management** system creates good conditions for good **data quality** and **linkability of your object data** with data from other sources.

1.4

Contents of a LIDO Record

LIDO Record

A **LIDO record** can describe:

- a single object ([Item-level record](#)),
- a part of an object ([Component-level record](#))
- a group of objects ([Group-level record](#), [Collection](#))
- a conceptual work ([Conceptual-level record](#)).

You find the current list of LIDO record types here:

<http://terminology.lido-schema.org/recordType>

LIDO: Information Areas and Groups



Descriptive Metadata

Object Classification

1. Object/WorkType
2. Classification

Object Identification

3. Title
4. Inscriptions
5. Repository/Location
6. State/Edition
7. Object Description
8. Object Measurements
9. ObjectMaterials/Techniques

Event

10. Event Set

Object Relation

11. Subject
12. Related Works

Administrative Metadata

Rights for Work

13. Rights for Work Set

Record

14. Record Set

Resource

15. Resource Set

Descriptive Metadata

Descriptive Metadata in LIDO hold **information about the properties of the described object itself, whether it is analog or digital**. These data are essential for searching, finding, and identifying the object in collections or portals.

Descriptive metadata are intended to facilitate the discovery and identification of objects or works. They are most visible to end-users, guiding them through the physical or virtual shelves and enabling them to find what they need. Descriptive metadata comprise information on object properties, such as its type, title, physical features, or participation in an event.

LIDO Primer:

<https://lido-schema.org/documents/primer/latest/lido-primer.html#descriptive-metadata> <https://lido-schema.org/documents/primer/latest/lido-primer.html#descriptive-metadata-1>

Administrative Metadata

Administrative Metadata in LIDO relate to the **management of the described record or resource, and associated usage or intellectual property rights**. This includes information about the rights holder, preservation and archiving processes the record or resource has gone through, as well as technical characteristics, e.g., for decoding or rendering the digital representation.

Administrative metadata are intended to facilitate the management of the data provided, particularly holding information about rights and restrictions on the access or use of the described object or work, the provided record or any supplied resource.

LIDO Primer:

<https://lido-schema.org/documents/primer/latest/lido-primer.html#descriptive-metadata> <https://lido-schema.org/documents/primer/latest/lido-primer.html#descriptive-metadata-1>

LIDO Mandatory Elements

LIDO contains only very few **mandatory (required) elements**:

- [LIDO Metadata Record Identifier](#)
- [Object/Work Type](#)
- [Title](#)
- [Record ID](#)
- [Record Type](#)
- [Record Source](#)
- Furthermore, there are elements that are mandatory if other elements are used.

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#mandatory-elements>

LIDO Mandatory Elements

The mandatory LIDO elements are sufficient to **identify an object or work unambiguously**, given that metadata elements are applied correctly. In most cases, however, providing the bare minimum of metadata will usually not be enough to enable good retrieval results in terms of findability and object discovery.

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#mandatory-elements>

LIDO Recommended Elements: Indexing

It is strongly recommended to provide indexing terms for the following elements:

- [Classification](#)
- [Measurements](#)
- [Materials/Techniques](#)
- [Event \(e.g. production or use of an object\)
see \[event type terms from the LIDO Terminology\]\(#\)](#)
- [Subject](#)
- [Related Works](#)

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#recommended-elements>

LIDO Recommended Elements: Rights

It is strongly recommended to provide information for:

- [Rights for Work](#)
- [Rights for Record](#)
- [Rights Resource](#)

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#recommended-elements>

LIDO Recommended Elements

It is also recommended to provide information for the following elements:

- [Inscriptions](#)
- [Repository](#) (institution of custody, location)
- [Description](#)
- [Record Metadata](#)
- [Resource Representation](#) (e.g. images of the object)

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#recommended-elements>

LIDO XML

XML is a markup language. LIDO is defined as an XML schema.

```
<lido:lidoWrap xsi:schemaLocation="http://www.lido-schema.org http://www.lido-schema.org/schema/v1.1/lido-v1.1.xsd">
  <lido:lido>
    <lido:lidoRecID lido:type="local">DE-Mb112/lido-obj00154983</lido:lidoRecID>
    <lido:descriptiveMetadata xml:lang="en">
      <lido:objectClassificationWrap>
        <lido:objectWorkTypeWrap>
          <lido:objectWorkType>
            <lido:term>Painting</lido:term>
          </lido:objectWorkType>
        </lido:objectWorkTypeWrap>
      </lido:objectClassificationWrap>
      <lido:objectIdentificationWrap>
        <lido:titleWrap>
          <lido:titleSet>
            <lido:appellationValue xml:lang="it">La Primavera</lido:appellationValue>
          </lido:titleSet>
        </lido:titleWrap>
      </lido:objectIdentificationWrap>
    </lido:descriptiveMetadata>
    <lido:administrativeMetadata xml:lang="en">[...]</lido:administrativeMetadata>
  </lido:lido>
</lido:lidoWrap>
```

Root element: <lido:Wrap> (or <lido:lido> for documents with only one record)

LIDO record: Element <lido:lido>

Element <lido:descriptiveMetadata>
lido = namespace
descriptiveMetadata = element name
Descriptive Metadata = element label

Attribute @xml:lang
xml = namespace
lang = attribute name

LIDO Element Types

- **Structural elements**
 - Wraps (not repeatable)
 - Sets (repeatable)
- **Content elements**
 - Identifier
 - Text and Display (optimized for human readable display)
 - Index (optimized for retrieval)
 - Mixed – Text or Index
- Definition of LIDO elements using **<xs:complexType>**
- **Elements from other namespaces:** gml, skos, owl

Terminologies/Controlled Vocabularies

LIDO recommends the use of controlled vocabularies for

- **named entities:** e.g. persons and places (Leonardo da Vinci: <http://viaf.org/viaf/24604287>)
- **concepts:** e.g. object/work types (oil paintings: <http://vocab.getty.edu/aat/300033799>)

Use of controlled vocabularies instead of free text

- allows good search/retrieval in aggregated data (e.g. online portals),
 - **unambiguity**
 - enrichment with **synonyms** is possible
 - enrichment with **multilingual** information is possible
- enables the enrichment of data. For example, the VIAF ID or GND ID can be used to retrieve additional information about a person in one's own data,
- creates a good basis for the transformation of LIDO data into Linked Open Data (LOD) and thus for linking distributed data.

Named Entities: Person (<lido:actor>)

```
<lido:actor
    lido:type="http://terminology.lido-schema.org/lido00413">
    <lido:actorID
        lido:type="http://terminology.lido-schema.org/lido00099">
            http://viaf.org/viaf/24604287
        </lido:actorID>
    <lido:nameActorSet>
        <!-- Preferred name -->
        <lido:appellationValue
            lido:pref="http://terminology.lido-schema.org/lido00169"
            xml:lang="en">
                Leonardo, da Vinci
            </lido:appellationValue>
        <!-- Display name -->
        <lido:appellationValue
            lido:pref="http://terminology.lido-schema.org/lido00526"
            xml:lang="en">
                Leonardo da Vinci
            </lido:appellationValue>
    </lido:nameActorSet>
```



Concepts: Object/Work Type (<lido:objectWorkType>)

```
<!--Object by material or technique-->
<lido:objectWorkType
    lido:type="http://terminology.lido-schema.org/lido00789">
    <skos:Concept
        rdf:about="http://vocab.getty.edu/aat/300033799">
            <skos:prefLabel xml:lang="en">
                oil paintings (visual works)
            </skos:prefLabel>
        </skos:Concept>
        <!-- Display Label -->
        <lido:term
            lido:pref="http://terminology.lido-schema.org/lido00526"
            xml:lang="en">
            Oil painting
        </lido:term>
    </lido:objectWorkType>
```

LIDO Terminology Recommendation

1. LIDO recommends the use of **LIDO Terminology** for selected **LIDO elements and attributes**
2. LIDO recommends **other controlled vocabularies**, preferably provided as Linked Open Data, e.g. Getty Art & Architecture Thesaurus (AAT), Wikidata, ...

All recommendations are provided by the
LIDO Terminology Recommendation document:
<https://lido-schema.org/documents/terminology-recommendation.html>



Concepts: Event Type, Measurement Type

```
-<lido:eventWrap>
  -<lido:eventSet>
    -<lido:event>
      -<lido:eventType>
        -<skos:Concept rdf:about="http://terminology.lido-schema.org/lido00011">
          <skos:prefLabel xml:lang="en">Use</skos:prefLabel>
          <skos:prefLabel xml:lang="de">Gebrauch</skos:prefLabel>
        </skos:Concept>
      </lido:eventType>
      <lido:eventActor/>
      <lido:eventDate/>
      <lido:eventPlace/>
      <lido:thingPresent/>
      <lido:relatedEventSet/>
    </lido:event>
  </lido:eventSet>
-<lido:eventWrap>
```

LIDO Terminology

```
-<lido:measurementType>
  -<skos:Concept rdf:about="http://www.wikidata.org/entity/Q35059">
    <skos:prefLabel xml:lang="en">width</skos:prefLabel>
    <skos:prefLabel xml:lang="de">Breite</skos:prefLabel>
    <skos:mappingRelation>http://vocab.getty.edu/aat/300055647</skos:mappingRelation>
  </skos:Concept>
-<lido:measurementType>
```

Other vocabularies
e.g. Wikidata, Getty AAT

<https://lido-schema.org/schema/v1.1/lido-v1.1.html#eventType>

1.5

LIDO Application Profiles



LIDO Application Profiles

LIDO Profiles are connected with specific use cases and may consist of

- further mandatory elements,
 - „mandatory if available“ recommendations,
 - restrictions which elements to use,
 - terminology recommendations,
 - extensions of provided LIDO Terminology,
- but always have to be compliant with the schema!

The aim is to improve the quality of indexing and data export.

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html#application-profiles>

LIDO Application Profiles: Links

- **LIDO Website:** LIDO Profiles
<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/profiles/>
- **Presentation slides:** LIDO Profiles (CIDOC 2021/2022)
http://lido-schema.org/documents/presentations/2022_CIDOC/PRE_CIDOC_LIDO-Profiles_2022-05-22.pdf
- **LIDO Primer:** LIDO Application Profiles
<https://lido-schema.org/documents/primer/latest/lido-primer.html#application-profiles>

Documentation of LIDO Application Profiles

If you develop a LIDO profile for your application,
please document and publish it, so that other LIDO
users can benefit from it.

1.5

Summary: LIDO Introduction



Summary: LIDO Introduction

- LIDO is a **metadata schema** for the description of objects/works.
- LIDO was developed for the purpose of data **harvesting** i.e. providing object data for publication.
- LIDO is used as **format for data delivery** to online portals like [Europeana](#).
- LIDO is defined in the **XML-Schema** Language:
LIDO v1.0 (2010), current version: [LIDO v1.1](#) (2021).
- LIDO is based on pre-existing **standards**: [CDWA](#), [CIDOC-CRM](#), [Spectrum](#).
- The **LIDO Primer** provides a comprehensive introduction:
<https://lido-schema.org/documents/primer/latest/lido-primer.html>
- LIDO is developed by the [CIDOC LIDO Working Group](#).
- **LIDO Website:** <https://lido-schema.org>

1.6

Helpful Materials/Links

LIDO Website

<https://lido-schema.org>

The screenshot shows the CIDOC website interface. On the left is a vertical navigation menu with options: NEWS, AGENDA, ORGANISATION, WORKING GROUPS, STANDARDS, RESOURCES, TRAINING, EVENTS, ARCHIVE, BLOG, and CONTACT. Below the menu is a link to SUBSCRIBE CIDOC NEWS. At the bottom of the sidebar are social media icons for Facebook, Twitter, and LinkedIn. The main content area features a large image of a handwritten manuscript page. Below the image, the text "LIDO Working Group" is displayed in bold. To the right of the title is the LIDO logo, which consists of the word "LIDO" in blue with a yellow outline, and "Lightweight Information Describing Objects" in smaller text below it. To the right of the logo is a detailed description of the LIDO Working Group's role and activities. The text reads:

The LIDO Working Group – formerly Data Harvesting and Interchange Working Group – centralizes information and activities that are currently taking place with *Lightweight Information Describing Objects (LIDO)*, a format for contributing collection information for resource discovery. The Working Group sustains LIDO's advancement, exposure, and applicability.

The Working Group brings together documentation and material for LIDO, along with information on CDWA Lite, and museumdat, the two XML schemas upon which LIDO is based. The Working Group provides a history of developments and material to help understand how the schemas evolved. Additionally, the Working Group serves as the source for the most up-to-date information about advancements with LIDO, and a place to evaluate its progress, implementations and understanding within the greater community.

<https://cidoc.mini.icom.museum/working-groups/lido/>

<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/about-lido/what-is-lido/>



LIDO: Schema, Documentation, Examples

Schema and documentation

- [LIDO XML Schema \[XSD\]](#)
- [LIDO Documentation \[HTML\]](#)
- [What is new in LIDO v1.1?](#)
- [LIDO Primer](#)

Examples

- <https://lido-schema.org/examples>
- LIDO Handbook Painting and Sculpture (Examples):
Knaus, Gudrun; Kailus, Angela; Stein, Regine, 2022, "LIDO-Handbuch für die Erfassung und Publikation von Metadaten zu kulturellen Objekten - Band 2: Malerei und Skulptur [Anwendungsbeispiele]",
<https://doi.org/10.11588/data/CHEPS6>, heiDATA, V3

LIDO Documentation

In the documentation (HTML) all LIDO elements and attributes are described.

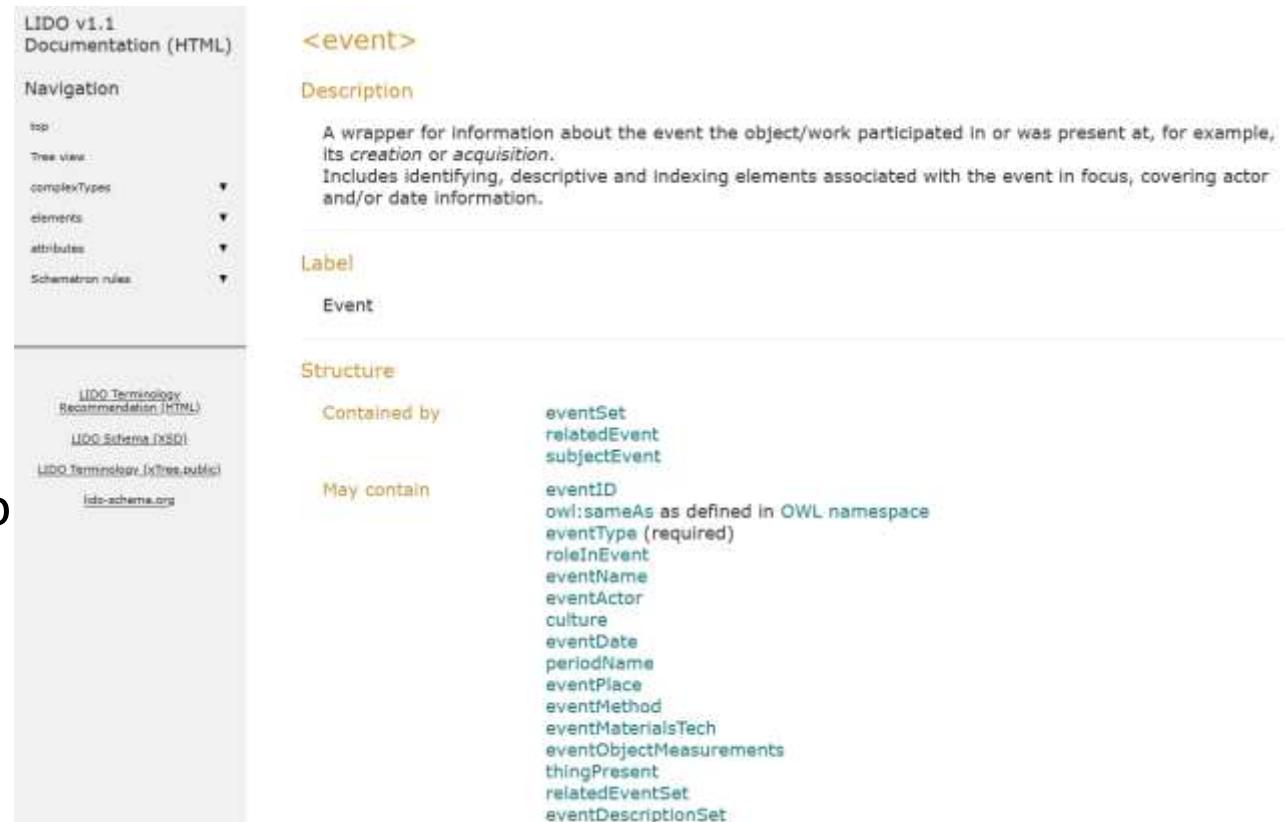
You can open the documentation in your browser at the following addresses:

<https://lido-schema.org/schema/v1.1/lido-v1.1.html>
<https://lido-schema.org/schema/latest/lido.html>

You can directly access all elements and attributes in the documentation by appending a hash and the element name to the above URLs, e.g.

<https://lido-schema.org/schema/v1.1/lido-v1.1.html#event>
<https://lido-schema.org/schema/latest/lido.html#event>

„latest“ = current LIDO version



The screenshot shows the LIDO Documentation website. On the left, there is a navigation sidebar with links to LIDO v1.1 Documentation (HTML), Navigation, Top, Tree view, complexTypes, elements, attributes, and Schematron rules. Below the navigation is a footer with links to LIDO Terminology Recommendation (HTML), LIDO Schema (XSD), LIDO Terminology (xrefs-public), and lido-schema.org.

The main content area is titled <event>. It includes a description: "A wrapper for information about the event the object/work participated in or was present at, for example, its creation or acquisition. Includes identifying, descriptive and indexing elements associated with the event in focus, covering actor and/or date information." It also includes a label section for "Event" and a structure section showing relationships. The "Contained by" section lists eventSet, relatedEvent, subjectEvent, and eventID. The "May contain" section lists owl:sameAs, eventType (required), roleInEvent, eventName, eventActor, culture, eventDate, periodName, eventPlace, eventMethod, eventMaterialsTech, eventObjectMeasurements, thingPresent, relatedEventSet, and eventDescriptionSet.

LIDO Primer



LIDO Primer

1 About this document

1.1 Scope

1.2 Associated documents

2 About LIDO

2.1 What is LIDO?

2.2 Why LIDO?

2.3 Background

2.3.1 CDWA Lite

2.3.2 CIDOC CRM

2.3.3 Spectrum

2.4 Related standards

3 Design principles

3.1 Basic considerations

3.2 Choice of technologies

1 About this document

1.1 Scope

The LIDO Primer is a user guide for those who wish to represent information describing objects or works of material culture and natural heritage with LIDO. Described objects may be human-made art works or utilitarian objects, as well as natural specimens or archeological remains. It is intended for anyone concerned with producing, maintaining, transforming, or publishing metadata for cultural heritage collections, not only limited to museums, but also including, for example, libraries and archives. The Primer complements the more technical documents listed below by giving background information and introductory examples for applying the LIDO schema in practice.

Throughout this Primer, the painting *Mona Lisa* by Leonardo da Vinci serves as an example of an object description in LIDO Version 1.1. XML snippets are provided to show the usage of LIDO elements, attributes, and recommended terminology. Besides, the *Mona Lisa* also features in the Europeana Data Model Primer ([EDM Primer](#)) to illustrate the main features of the model. The example in LIDO intends to demonstrate similarities between its XML-based model and the RDF graph resulting from application of the EDM.

LIDO Primer: <https://lido-schema.org/documents/primer/latest/lido-primer.html>



LIDO Terminology Recommendation

The **LIDO Terminology Recommendation** document provides recommendations for the use of controlled vocabulary for many LIDO elements and attributes.

You can open the terminology recommendations in your browser using the following address:

<https://lido-schema.org/documents/terminology-recommendation.html>

Recommendations for elements (with #elementname):

<https://lido-schema.org/documents/terminology-recommendation.html#objectWorkType>

Recommendations for attributes (with #attributename):

https://lido-schema.org/documents/terminology-recommendation.html#objectWorkType_type

Example: LIDO recommends the use of the Getty AAT Objects Facet for the LIDO element Object/Work Type

objectWorkType

[Go to the schema documentation for objectWorkType](#)

Terminology recommendations

For the **Object/Work Type** element choose a concept URI from the **Objects Facet** hierarchy of the Art & Architecture Thesaurus, or another linked open vocabulary.

See also recommendations in [CDWA 21.2. Object/Work Type – TERMINOLOGY/FORMAT](#)



LIDO Terminology

The **LIDO Terminology** is available as LOD (**Linked Open Data**) vocabulary and contains vocabularies for selected LIDO elements and attributes.

The LIDO Terminology often refers to the **CIDOC CRM**.

You can view the LIDO vocabularies in your browser using the following address:

<http://terminology-view.lido-schema.org>

Example: LIDO Term for Event Type “Production”

<http://terminology.lido-schema.org/lido00007>

<https://terminology.lido-schema.org/lido00007.rdf>

SPARQL:

<http://terminology.lido-schema.org/sparql>

Documentation:

<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/lido-terminology/>

<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/lido-terminology/lod-interface/>

Selected vocabulary: LIDO-Terminologie

- + [category \(en\)](#)
- + [classification_type \(en\)](#)
- + [earliestDate_type \(en\)](#)
- + [eventDescriptionSet_type \(en\)](#)
- + [eventPlace_type \(en\)](#)
- [eventType \(en\)](#)
 - [**C Activity \(Non-indexing term\) \(en\)**](#)
 - [**T Acquisition \(Activity\) \(en\)**](#)
 - + [**T Attribute assignment \(en\)**](#)
 - [**T Commissioning \(en\)**](#)
 - [**T Condition assessment \(en\)**](#)
 - [**T Conservation \(en\)**](#)
 - + [**T Creation \(en\)**](#)
 - [**T Destruction \(en\)**](#)
 - [**T Excavation \(en\)**](#)
 - [**T Exhibition \(Activity\) \(en\)**](#)
 - [**T Finding \(Activity\) \(en\)**](#)
 - [**T Marketing \(en\)**](#)
 - + [**T Modification \(en\)**](#)
 - [**T Move of object \(Activity\) \(en\)**](#)
 - + [**T Object requirement assessment \(en\)**](#)
 - [**T Performance \(en\)**](#)
 - [**T Planning \(en\)**](#)
 - [**T Provenance event \(en\)**](#)
 - + [**T Transfer of custody \(en\)**](#)
 - [**T Use \(en\)**](#)

LIDO v1.1 Mapping table

The mapping table lists all **LIDO elements** with their repeatability (**cardinality**).

You find the mapping table in the training folder or at
<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/lido-schema/>.

LIDO v1.1 http://lido-schema.org/schema/v1.1/lido-v1.1.xsd			
Label	LIDO v1.1	Element	Cardinality
		All non-italic element names are linked to the element description in the HTML documentation(https://lido-schema.org/schema/v1.1/lido-v1.1.html).	Repeatability u = unbounded
Wrapper for the whole document		lidoWrap	1
Wrapper for an object record		lido	1-u
LIDO Metadata Record Identifier		lidoRecID	1-u
Published Object Identifier		objectPublishedID	0-u
Category		category <i>skos:Concept</i> <i>conceptID</i> <i>term</i>	0-1
Application Profile	NEU v1.1	applicationProfile	0-1
Descriptive Metadata		descriptiveMetadata	1-u
Object Classification Wrapper		objectClassificationWrap	1
Object/Work Type Wrapper		objectWorkTypeWrap	1
Object/Work Type		objectWorkType <i>skos:Concept</i> <i>conceptID</i> <i>term</i>	1-u
Classification Wrapper		classificationWrap	0-1
Classification		classification	0-u

Overview: Materials/Links

- [LIDO Website](#)
- [LIDO Schema](#)
- [LIDO Examples](#)
- [LIDO Documentation](#)
- [LIDO Primer](#)
- [LIDO Terminology Recommendation](#)
- [LIDO Terminology](#)
- LIDO v1.1 Mapping Table (see training folder or
<https://cidoc.mini.icom.museum/working-groups/lido/lido-overview/lido-schema/>)

References

- CIDOC LIDO Working Group (2023-02-28). **LIDO Primer.** <https://lido-schema.org/documents/primer/2023-02-28/lido-primer.html>
- Knaus, Gudrun, Kailus, Angela und Stein, Regine: LIDO-Handbuch für die Erfassung und Publikation von Metadaten zu kulturellen Objekten: Band 2: Malerei und Skulptur, herausgegeben von Deutsches Dokumentationszentrum für Kunstgeschichte – Bildarchiv Foto Marburg und Christian Bracht, Heidelberg: arthistoricum.net, 2022 (LIDO-Handbuch, Band 2). <https://doi.org/10.11588/arthistoricum.1026>
- **LIDO Website** <https://lido-schema.org>

LIDO XML Examples

XML snippets in the slides are from:

- CIDOC LIDO Working Group (2023-02-28). **LIDO Primer.**
<https://lido-schema.org/documents/primer/2023-02-28/lido-primer.html>
- Knaus, Gudrun; Kailus, Angela; Stein, Regine, 2022, "LIDO-Handbuch für die Erfassung und Publikation von Metadaten zu kulturellen Objekten - Band 2: Malerei und Skulptur [Anwendungsbeispiele]",
<https://doi.org/10.11588/data/CHEPS6>, heiDATA, V2
- **CIDOC LIDO Working Group: LIDO Examples**
<https://lido-schema.org/examples>

Thank you!



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