

LIDO Profiles

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CIDOC LIDO Working Group

Overview

- LIDO Profiles
 - EODEM
 - Painting and Sculpture
 - Future work: Architecture, QA
- LIDO v1.1 - supporting profiles
- LIDO Profile development
 - Workflow
 - Future work: framework and profile registry



LIDO

Lightweight Information Describing Objects

- **XML schema** for sharing metadata in repositories and online services
- Integrates and extends **CDWA Lite** with **CIDOC-CRM** elements
- Defines an explicit **format for providing (museum) object information** in a standardized form
- Intended to represent the **full range of descriptive information about museum objects**, e.g. art, cultural, technology and natural science.
- It supports **multilingual** environments.

<https://lido-schema.org>

- Documents:
- [What is new in LIDO v1.1?](#)
 - [LIDO v1.1 example records](#)
 - [LIDO Terminology Recommendation \(HTML\)](#)
 - [More materials on LIDO version 1.1 will follow](#)

LIDO 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!

LIDO Profile: EODEM



EXHIBITION OBJECT DATA EXCHANGE MODEL

[http://cidoc.mini.icom.museum/working-groups/
documentation-standards/eodem-home/](http://cidoc.mini.icom.museum/working-groups/documentation-standards/eodem-home/)

Rupert Shepherd, CIDOC Documentation Standards
Working Group

@rgs1510 | @icomCIDOC | #EODEM

rupertshepherd.info/contact

What we're trying to do ...

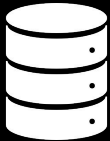
A framework that will enable museum databases to export objects' data from one system at the press of a button, and import the data into another system at the press of a button.

76 systems in the Encyclopaedia of Museum Practice

<https://cidoc-dswg.org/wiki/CollectionsManagementSystem>

How it should work

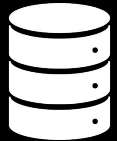
Lender



EODEM
export



Borrower



EODEM
import

Data standard



Spectrum

Units of information

1.	EODEM Exchange*	37.	Maker Type	73.	Relative Humidity Requirements Group*
2.	EODEM Object*	38.	Maker Identifier	74.	Relative Humidity Requirements Text
3.	LIDO Record ID\$¶	39.	Maker Display Name	75.	Relative Humidity Requirements Measurements Group*
4.	URI	40.	Maker Sort Name	76.	Target Minimum Relative Humidity
5.	LIDO Application Profile\$¶	41.	Maker Earliest Date	77.	Target Maximum Relative Humidity
6.	Object Metadata*	42.	Maker Latest Date	78.	Maximum Relative Humidity Variation
7.	Record Language\$¶	43.	Maker Role Group*	79.	Minimum Relative Humidity Variation Period
8.	Object Type Group*	44.	Maker Role Identifier†	80.	Visible Light Exposure Requirements Group*
9.	Object Type Identifier†	45.	Maker Role Keyword†	81.	Visible Light Exposure Requirements Text
10.	Object Type Keyword†¶	46.	Attribution Qualifier	82.	Visible Light Exposure Requirements Measurements Group*
11.	Title/Name Group*	47.	Production Date Group*	83.	Maximum Visible Light Exposure
12.	Title Type¶	48.	Display Production Date	84.	Maximum Cumulative Visible Light Exposure
13.	Title/Name¶	49.	Earliest Production Date	85.	Maximum Cumulative Visible Light Exposure Duration
14.	Title Language¶	50.	Latest Production Date	86.	Ultraviolet Light Exposure Requirements Group*
15.	Lender Group [1: repository]*‡	51.	Production Period Group*	87.	Ultraviolet Light Exposure Requirements Text
16.	Lender Identifier [1: repository]†‡\$	52.	Production Period Identifier†	88.	Ultraviolet Light Exposure Requirements Measurements Group*
17.	Lender Name [1: repository]†‡\$¶	53.	Production Period Keyword†	89.	Maximum Ultraviolet Light Exposure
18.	Object Identifier¶	54.	Loan Assessment Group*	90.	Target Ultraviolet Light Exposure
19.	Brief Description	55.	Value Group*	91.	Upper Ultraviolet Light Wavelength Boundary
20.	Measurement Group*	56.	Value Currency	92.	Installation Method
21.	Measurement Text	57.	Value	93.	Display Method
22.	Dimension Aspect Group*	58.	Insurance/Indemnity	94.	Security
23.	Dimension Group*	59.	Condition Of Object	95.	Photography And Filming
24.	Dimension	60.	Object Move Requirements Group*	96.	Administrative Metadata*
25.	Unit	61.	Handling	97.	Credit line
26.	Measurement	62.	Transport	98.	Local Record ID\$¶
27.	Dimension Aspect	63.	Condition Checking	99.	LIDO Record Type Group*‡
28.	Dimension Qualifier	64.	Hazards	100.	LIDO Record Type Identifier†¶
29.	Materials Group*	65.	Object Display Requirements Group*	101.	LIDO Record Type Keyword†¶
30.	Material Description	66.	Temperature Requirements Group*	102.	Lender Group [2: record source]*
31.	Material Group*	67.	Temperature Requirements Text	103.	Lender Identifier [2: record source]†‡\$
32.	Material Identifier†	68.	Temperature Requirements Measurements Group*	104.	Lender Name [2: record source]†‡\$¶
33.	Material Keyword†	69.	Target Minimum Temperature	105.	Export Date/Timestamp\$¶
34.	Object Production Group*	70.	Target Maximum Temperature	106.	Image Group*
35.	Maker Group*	71.	Maximum Temperature Variation	107.	Image
36.	Maker Identification Group*	72.	Minimum Temperature Variation Period	108.	Image Type\$
				109.	Identifier Type

Draft data standard – LIDO

- Object Identifier
- URI
- Object Type
- Materials
- Measurements *group*
- Title/Name *group*
- Brief Description
- Date *group*
- Maker
- Image
- Credit Line
- Insurance/Indemnity
- Value
- Condition
- Temperature *group*
- Relative Humidity *group*
- Lux Level *group*
- UV Exposure *group*
- Handling
- Transport
- Installation
- Condition Checking
- Display
- Security
- Photography and Filming
- Hazard
- Lender Details
- Export Date

Draft data standard – LIDO

- Object Identifier
- URI
- Object Type
- Materials
- Measurements
group
- Title/Name
group
- Brief Description
- Date *group*
- Maker
- Image
- Credit Line
- Lender Details
- Export Date

Data mapping – LIDO

- Measurements
 - Object itself, or object's requirements?
- Events
 - Historical, or generic?
- Measurement groups
 - How to identify?
- Terminology

Requirements are events

1. Loan Assessment

1. Value
2. Insurance/Indemnity
3. Condition Of Object

2. Object Move Requirements

1. Handling
2. Transport
3. Condition Checking
4. Hazards

3. Object Display Requirements

1. Temperature Requirements
2. Relative Humidity
Requirements
3. Visible Light Exposure
Requirements
4. Ultraviolet Light Exposure
Requirements
5. Installation Method
6. Display Method
7. Security
8. Photography And Filming

Terminologies

Mandatory

- **IANA media types list:** Image Type
- **IETF language code list:** Record Language, Title Language
- **ISO 4217 (currencies):** Value Currency
- **ISO 8601 (dates):** Earliest Production Date, Latest Production Date, Export Date/Timestamp
- **Individual SI units of measurement** for quantified environmental requirements
- **LIDO Terminology:**
 - actor@type: Maker Type
 - identifier_type: ...ID@type
 - pref: @pref
 - recordType: LIDO Record Type Identifier, LIDO Record Type Keyword
 - termMaterialsTech@type: Material Group

Recommended

- **ISO 8601 (dates):** Maker Earliest Date, Maker Latest Date
- **SI units** and their abbreviations: Unit

Data mapping – vocabularies

- Terminology regarding requirements – Getty AAT
- Event types – LIDO Terminology
- Measurement types – LIDO terminology
- Collection management concepts – Spectrum

Data mapping – vocabularies

- Terminology regarding requirements – Getty AAT

- duration: <http://vocab.getty.edu/aat/300443981>
- exposure (functional concept): <http://vocab.getty.edu/aat/300443982>
- maximum: <http://vocab.getty.edu/aat/300443983>
- minimum: <http://vocab.getty.edu/aat/300443984>
- relative humidity fluctuation: <http://vocab.getty.edu/aat/300443985>
- targets (multidisciplinary concept): <http://vocab.getty.edu/aat/300443986>
- wavelength: <http://vocab.getty.edu/aat/300443987>

Data mapping – vocabularies

- Event types – LIDO Terminology

- loan assessment:
<http://terminology.lido-schema.org/lido00795>
- display (object requirements assessment):
<http://terminology.lido-schema.org/lido00794>
- move of object (object requirements assessment):
<http://terminology.lido-schema.org/lido00793>

- Measurement types– LIDO terminology

- Object property:
<http://terminology.lido-schema.org/lido00927>
- Object requirement:
<http://terminology.lido-schema.org/lido00923>

Data mapping – vocabularies

- Collection management concepts –
Spectrum

- condition checking requirements:
<http://purl.org/spectrum/units/condition-checking-requirements>
- imaging requirements:
<http://purl.org/spectrum/units/imaging-requirements>
- installation note:
<http://purl.org/spectrum/units/installation-note>
- insurance or indemnity requirements:
<http://purl.org/spectrum/units/insurance-or-indemnity-requirements>
- security requirements:
<http://purl.org/spectrum/units/security-requirements>

Where are we now?

1. XML document containing
 1. Schema changes
 2. Documentation
 - To generate
 1. EODEM XSD schema file
 2. HTML documentation
 3. PDF documentation
 4. HTML outline EODEM LIDO document structure
3. Sample EODEM LIDO document
4. EODEM LIDO Schematron XSLT rules to produce detailed validation reports

Where are we now?

Public beta

- LIDO profile (human-readable)
- Sample record
- Online EODEM viewer
- Proof-of-concept importers / exporters
- To be finalised:
 - Schematron
 - Tools and templates

Next steps

- Summer – Autumn 2022: development
- Autumn 2022: stable release of EODEM 1.0
 - ICOM General Conference – 20-28 August 2022
 - Collections Trust Conference – 6 October 2022
 - European Registrars Conference – 3-5 November 2022

Resources

- Home page: <https://cidoc.mini.icom.museum/working-groups/documentation-standards/eodem-home/>
- CIDOC file store: <https://cidoc-data.org/shared-files> (filter by 'EODEM')
- EODEM file viewer: <https://cidoc-dswg.org/eodem/>
- Support group: eodem-support@googlegroups.com
- Slack workspace: <https://eodem.slack.com/>
- Input via monthly meetings

LIDO Profile: EODEM

- EODEM work confirmed new requirements, e.g. eventObjectMeasurements
- Many requirements could be solved through terminology extensions

LIDO Profile: Painting and Sculpture

LIDO Profile: Painting and Sculpture

- genre specific LIDO profile **cataloguing and publishing** metadata describing paintings and sculptures
- development in [KONDA project](#) by German Documentation Centre for Art History – Image Archive Foto Marburg (DDK)
- publication date: June 2022



LIDO Profile: Painting and Sculpture

- **handbook**
 - recommendations for cataloguing and for the implementation of the LIDO export
 - recommendations for the use of the LIDO Terminology and further vocabularies/authority files
- **schema file** (XSD) with Schematron rules

4. Block: Objektidentifikation	69
Titel (Gruppe)	70
Titel des Objekts/Werks (LIDO-Pflichtelement)	70
Titteltyp (empfohlen)	72
Quellenangabe zum Titel (empfohlen)	74
Texte am Objekt (Gruppe)	74
Transkription des Textes am Objekt (empfohlen)	75
Ort und Beschreibung des Textes am Objekt (empfohlen)	76
Quelle für die Angaben über den Text am Objekt (empfohlen)	77
Bewahrungsort oder Standort (Gruppe, Pflicht in diesem Anwendungsprofil)	78
Anzeige des Standorts	79
Name der aufbewahrenden Institution oder Person (empfohlen)	80
Aktuelle Inventarnummer	81
Alte Inventarnummer	82
Name des Standortes (Pflicht in diesem Anwendungsprofil)	82
Auflage	84
Quelle für die Angabe über die Auflage	85
Objektbeschreibung (Gruppe)	85
Objektbeschreibung (empfohlen)	86
Autor:in der Objektbeschreibung (empfohlen)	87
Rechte an der Objektbeschreibung (Gruppe)	87
Art der Rechte (empfohlen)	88
Geltungsdauer der Rechte	89
Inhaber:in der Rechte an der Objektbeschreibung	90

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But always have to be compliant with the schema!

LIDO Profile: Painting and Sculpture

Further mandatory elements

- Application Profile
- Repository/Location Set
 - Repository Name
 - Repository Work Identification Number (if repository is known)
- Either Material or Technique
- At least 1 Event with Event Type and at least 1 further Information concerning the event
- Rights Type (Work) => [FAIR Principles](#)
- Rights Type (Record) => [FAIR Principles](#)
- Rights Type (Resource) => [FAIR Principles](#)
- Record Metadata Date => [FAIR Principles](#)

LIDO Profile: Painting and Sculpture

LIDO Terminology: Description/Descriptive Note Set @type

Condition description: <http://terminology.lido-schema.org/lido00268>

Provenance description: <http://terminology.lido-schema.org/lido01110>

...

```
—<lido:objectDescriptionSet lido:type="http://terminology.lido-schema.org/lido00268">  
  <lido:descriptiveNoteValue>
```

Am oberen Rand beschnitten. Ursprünglich war der gesamte Hut von Rubens zu sehen. Der Originalzustand des Gemäldes kann druckgrafischen Reproduktionen entnommen werden, z. B. in: "Rubens und seine erste Frau" von Carl Ernst Hess im British Museum, Department of Prints and Drawings.

```
</lido:descriptiveNoteValue>
```

LIDO Profile: Painting and Sculpture

LIDO Terminology: Content Indexing: Subject @type

Interpretation: <http://terminology.lido-schema.org/lido00524>

Description: <http://terminology.lido-schema.org/lido00525>

Identification: <http://terminology.lido-schema.org/lido00136>

```

<lido:subject lido:type="http://terminology.lido-schema.org/lido00525">
  <lido:subjectConcept>
    <skos:Concept rdf:about="http://vocab.getty.edu/aat/300154337">
      <skos:prefLabel xml:lang="en">spouses</skos:prefLabel>
      <skos:altLabel xml:lang="en">spouse</skos:altLabel>
    </skos:Concept>
    <lido:term lido:pref="http://terminology.lido-schema.org/lido00526"
      lido:addedSearchTerm="yes" xml:lang="de">verheiratetes Paar</lido:term>
    <lido:term lido:addedSearchTerm="yes" xml:lang="de">Ehepaar</lido:term>
    <lido:term lido:addedSearchTerm="yes" xml:lang="de">Eheleute</lido:term>
  </lido:subjectConcept>

```




LIDO Profile Painting and Sculpture Example

Peter Paul Rubens and Isabella Brant in the
Honeysuckle Bower

<https://doi.org/10.11588/data/CHEPS6/FQ3GP5>

LIDO Profile: Painting and Sculpture

- Publication: June 22 2022
- Examples (LIDO v1.1 XML):
<https://doi.org/10.11588/data/CHEPS6>



Future work: LIDO Profiles

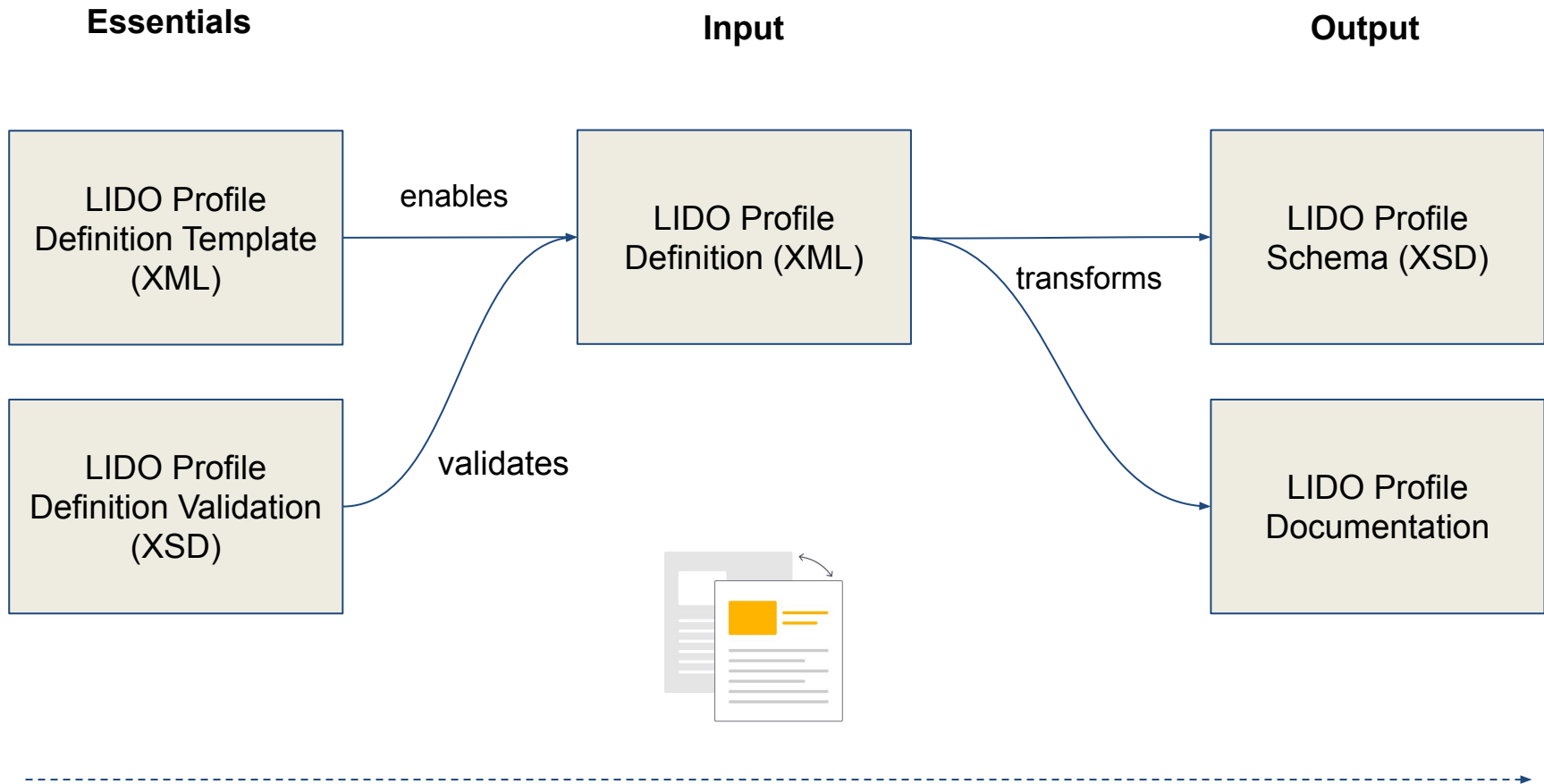
- LIDO Profile: Architecture
- LIDO Profile: Quality Assurance (QA)
 - Extended Schematron rules
 - Data quality improvement

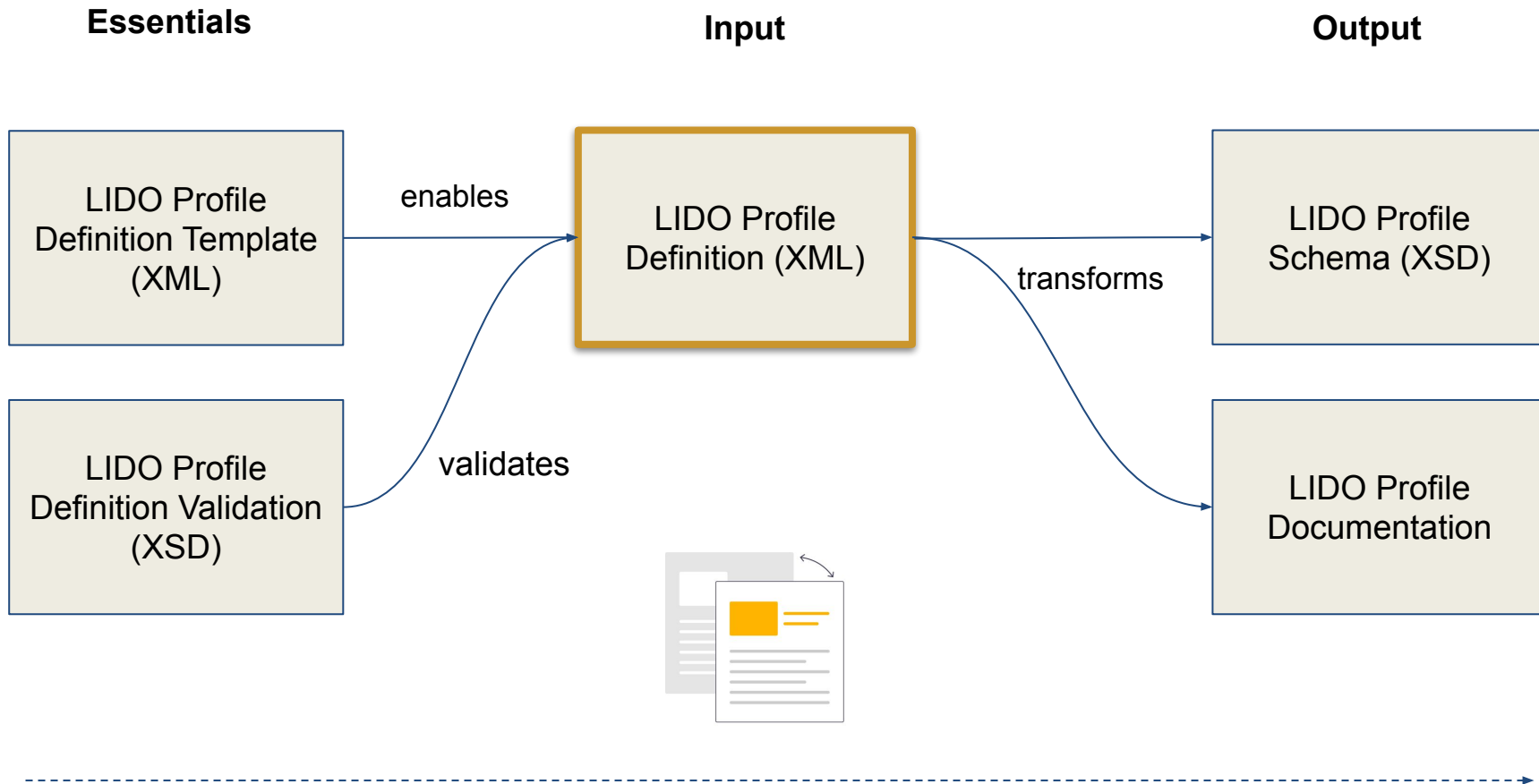
LIDO v1.1 – supporting profiles

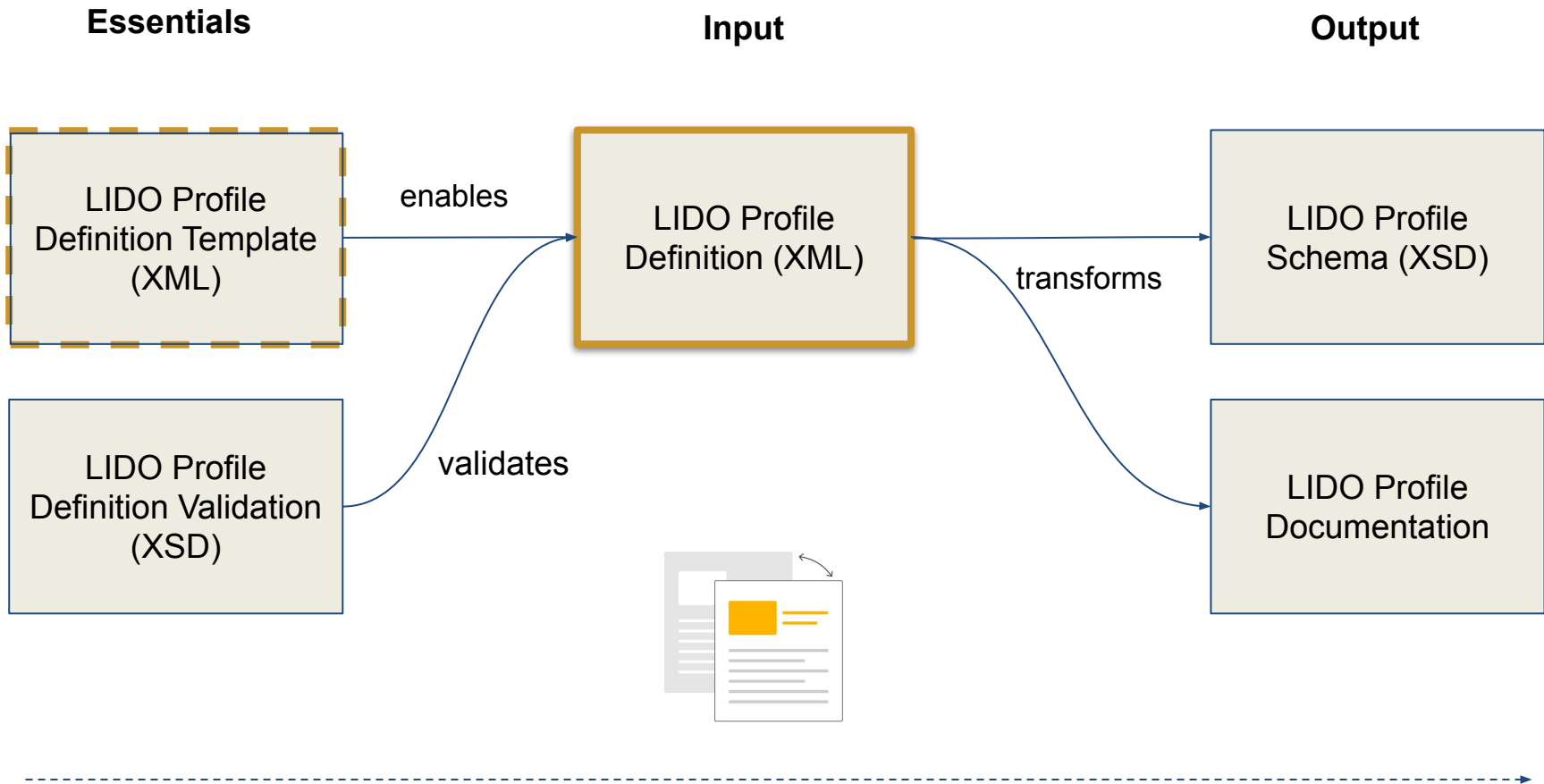
- Documentation revised and extended
- Accompanying document with terminology recommendations introduced – allows for dynamic extension
- Extended LIDO Terminology
- Gitlab project provides additional documentation, e.g. for profiles

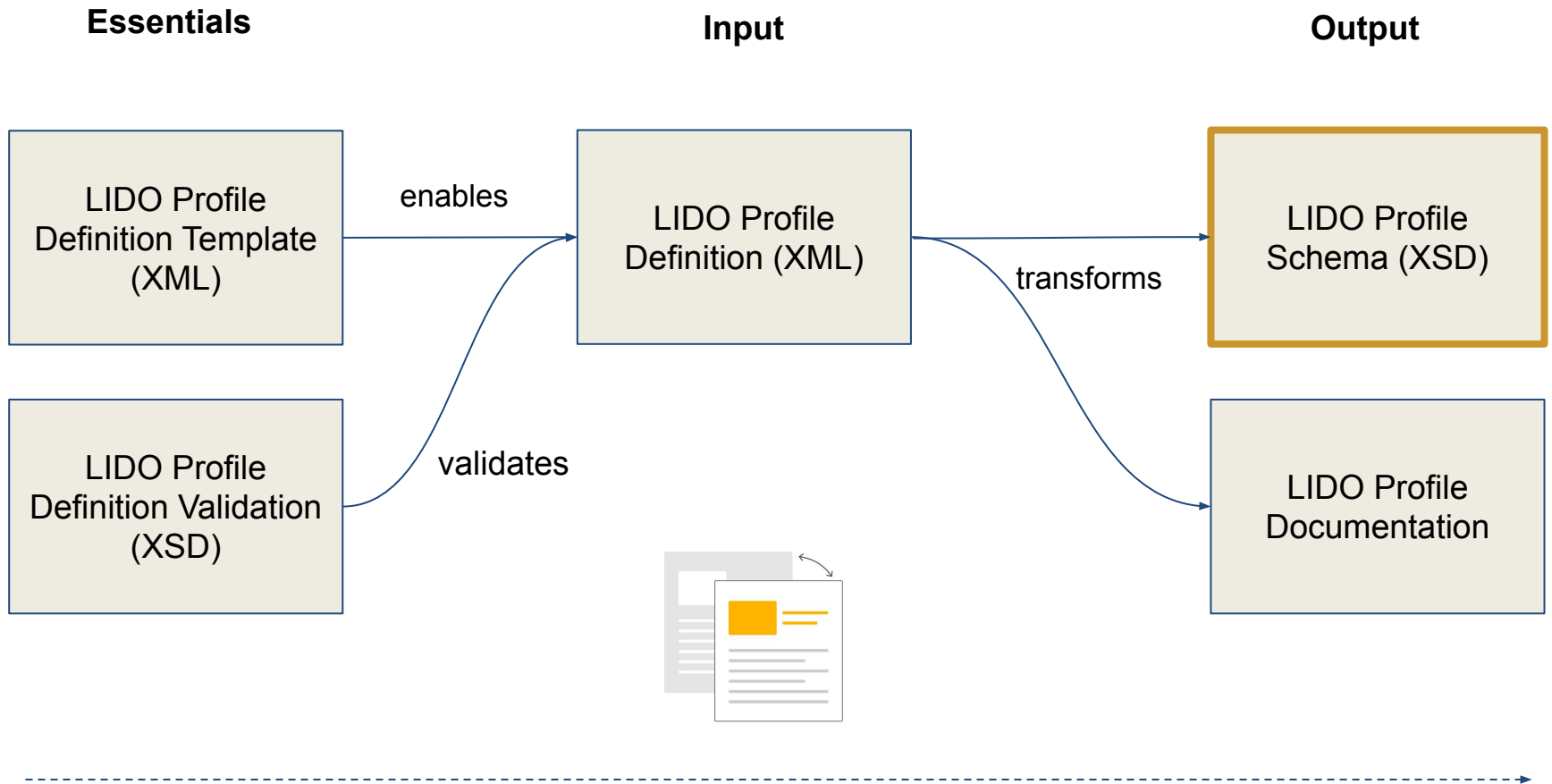
=> Framework for further profiles

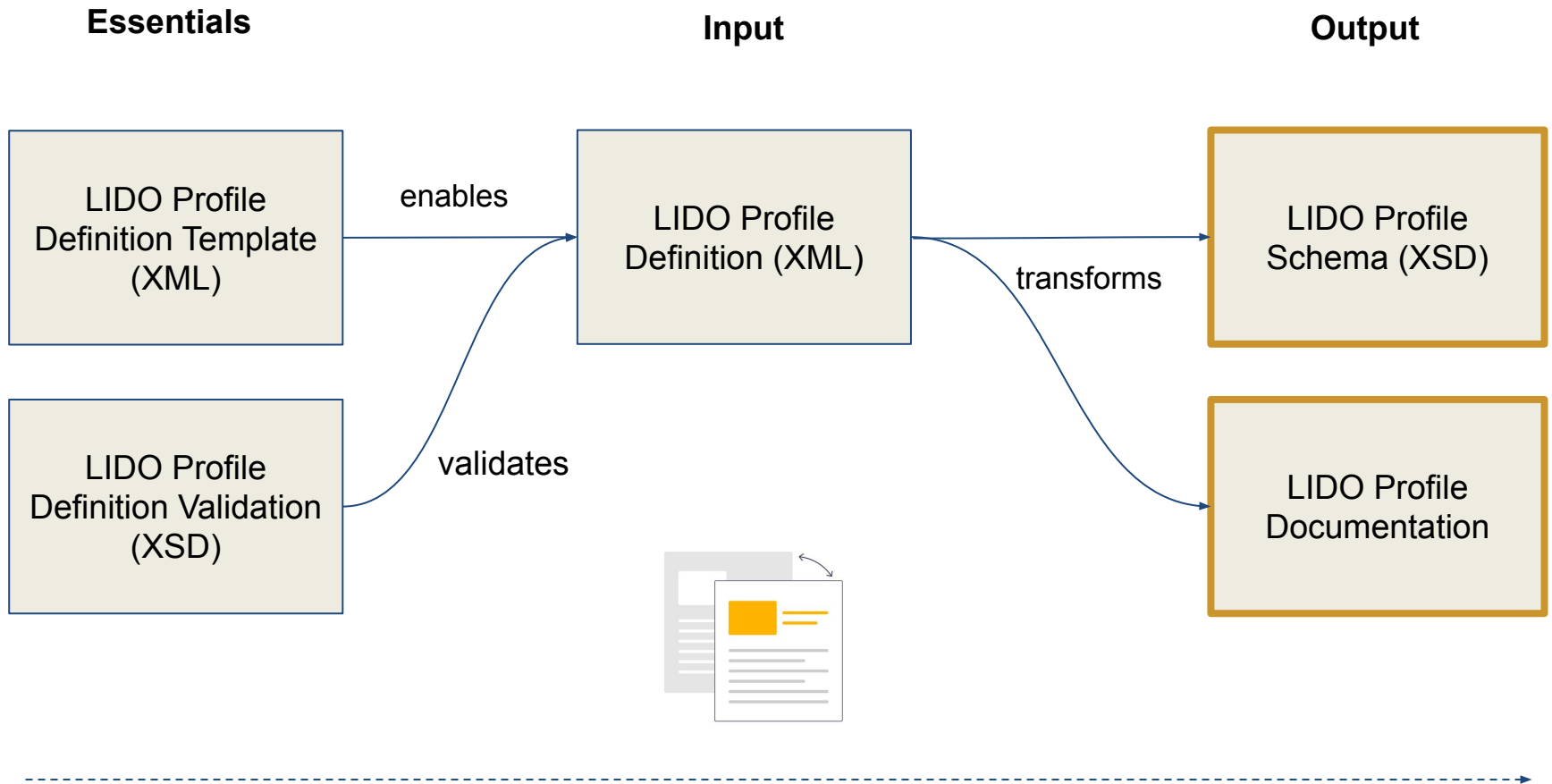
Workflow LIDO Profiles

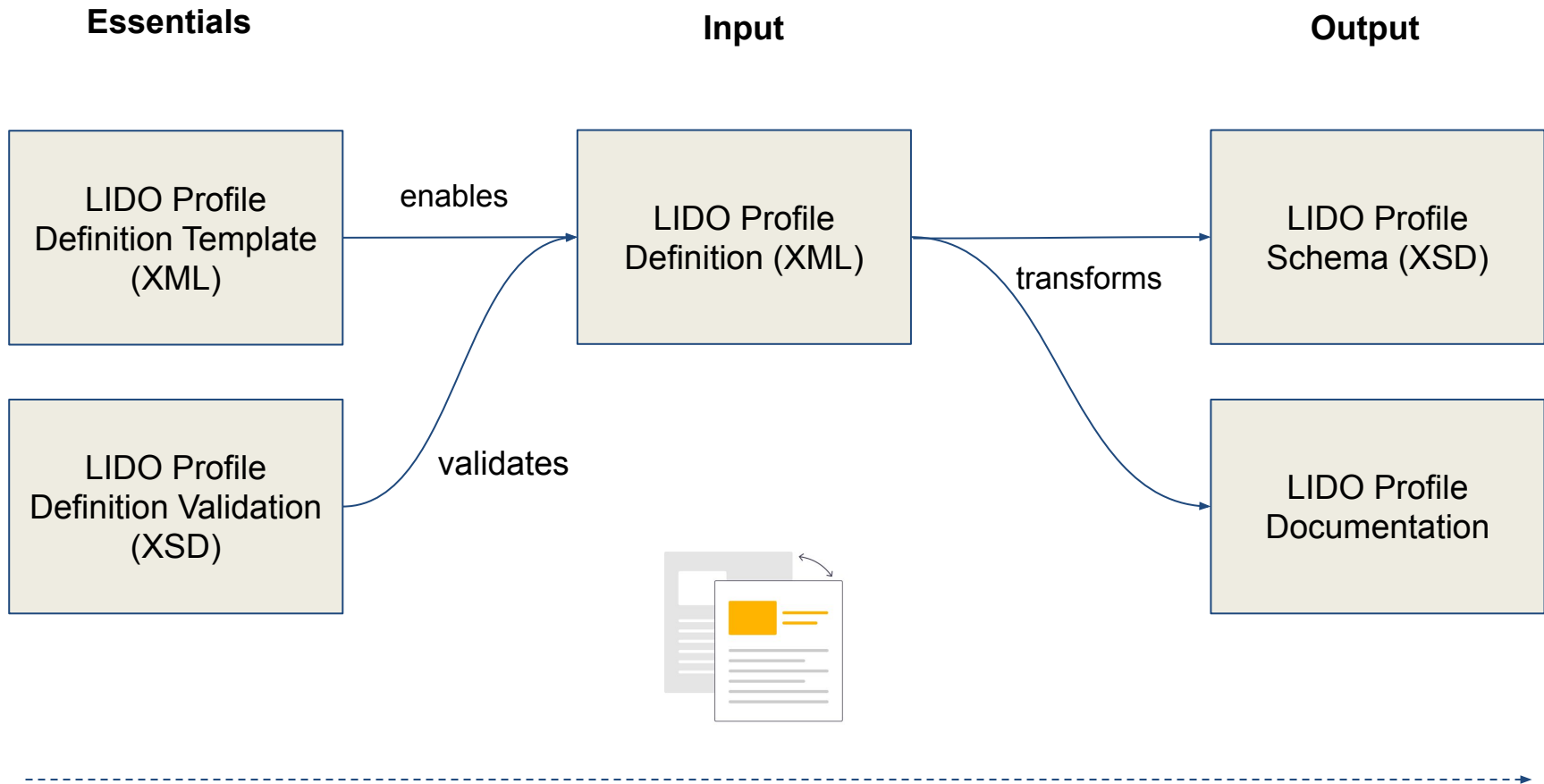


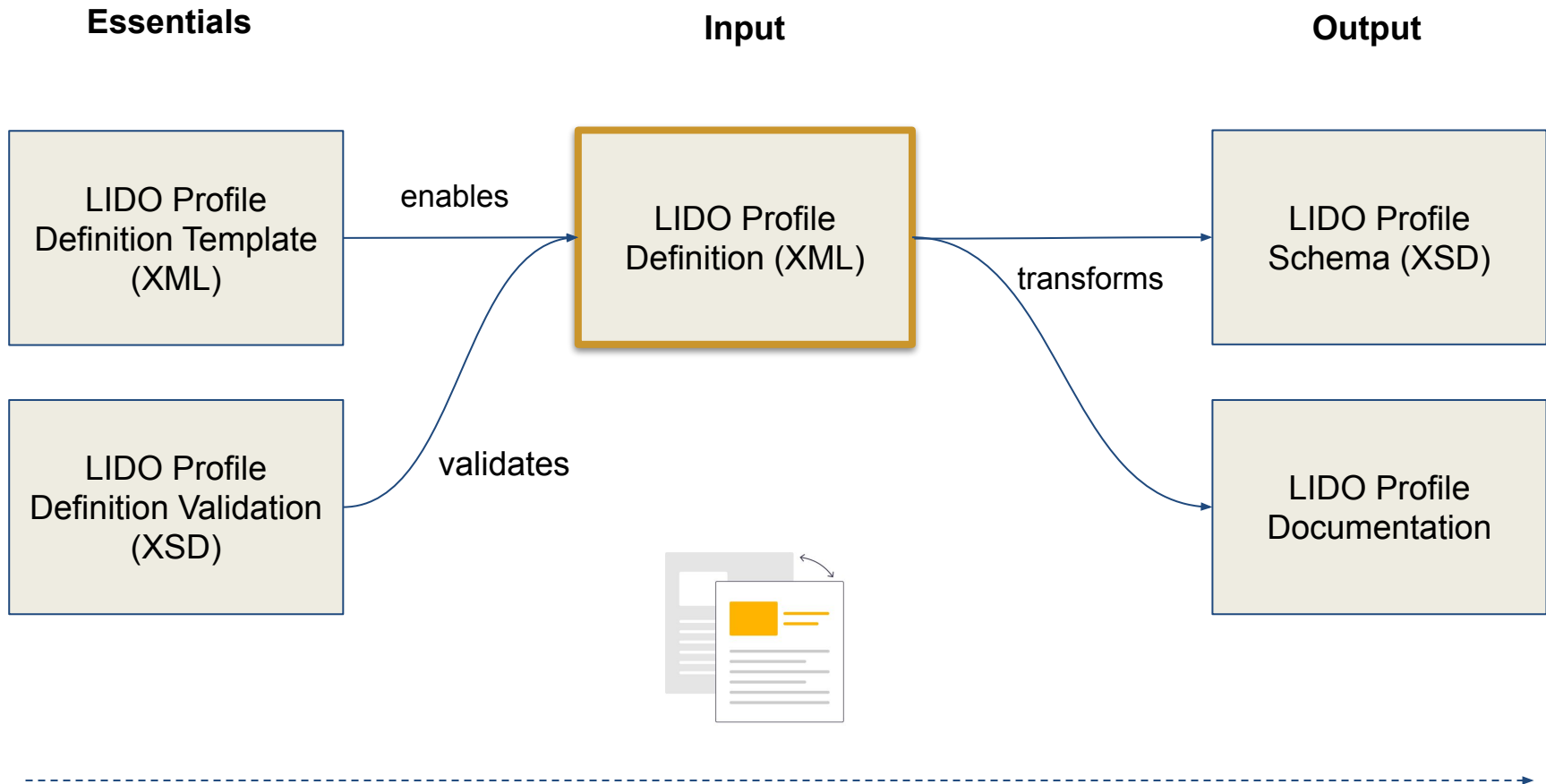














Altering the XSD

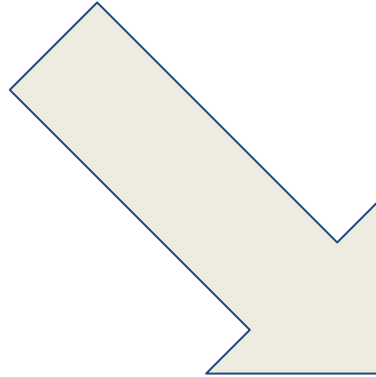
LIDO 1.1:

```
<xs:element name="applicationProfile" type="lido:identifierComplexType" minOccurs="0"
  id="applicationProfile">
  <xs:annotation>
    <xs:documentation>
      <tei:ab type="description">A unique identification of the application
        profile used to create the LIDO record.</tei:ab>
      <tei:ab type="label">Application Profile</tei:ab>
      <tei:ab type="dataValues">Controlled format</tei:ab>
    </xs:documentation>
    <xs:appinfo>
      <sch:pattern>
        <sch:rule context="lido:applicationProfile">
          <sch:extends rule="sch_pref"/>
          <sch:extends rule="sch_alternate"/>
        </sch:rule>
      </sch:pattern>
    </xs:appinfo>
  </xs:annotation>
</xs:element>
```

Altering the XSD

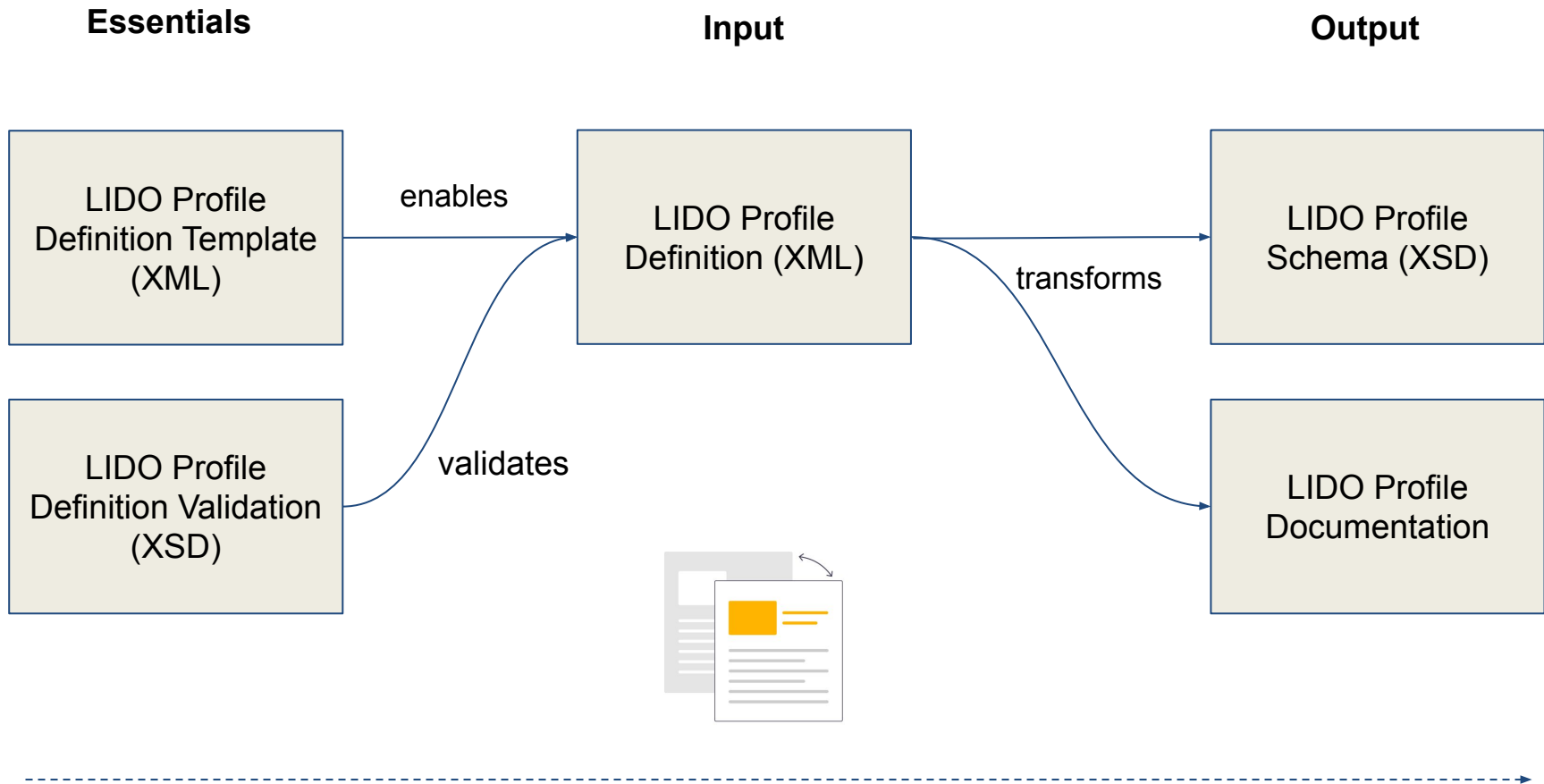
LIDO 1.1:

```
<xs:element  
  name="applicationProfile"  
  type="lido:identifierComplexType"  
  minOccurs="0"  
  id="applicationProfile">  
  <!-- [...] -->  
</xs:element>
```



Application Profile “Paintings and Sculptures”

```
<xs:element  
  name="applicationProfile"  
  type="lido:identifierComplexType"  
  minOccurs="1"  
  maxOccurs="1"  
  id="applicationProfile">  
  <!-- [...] -->  
</xs:element>
```





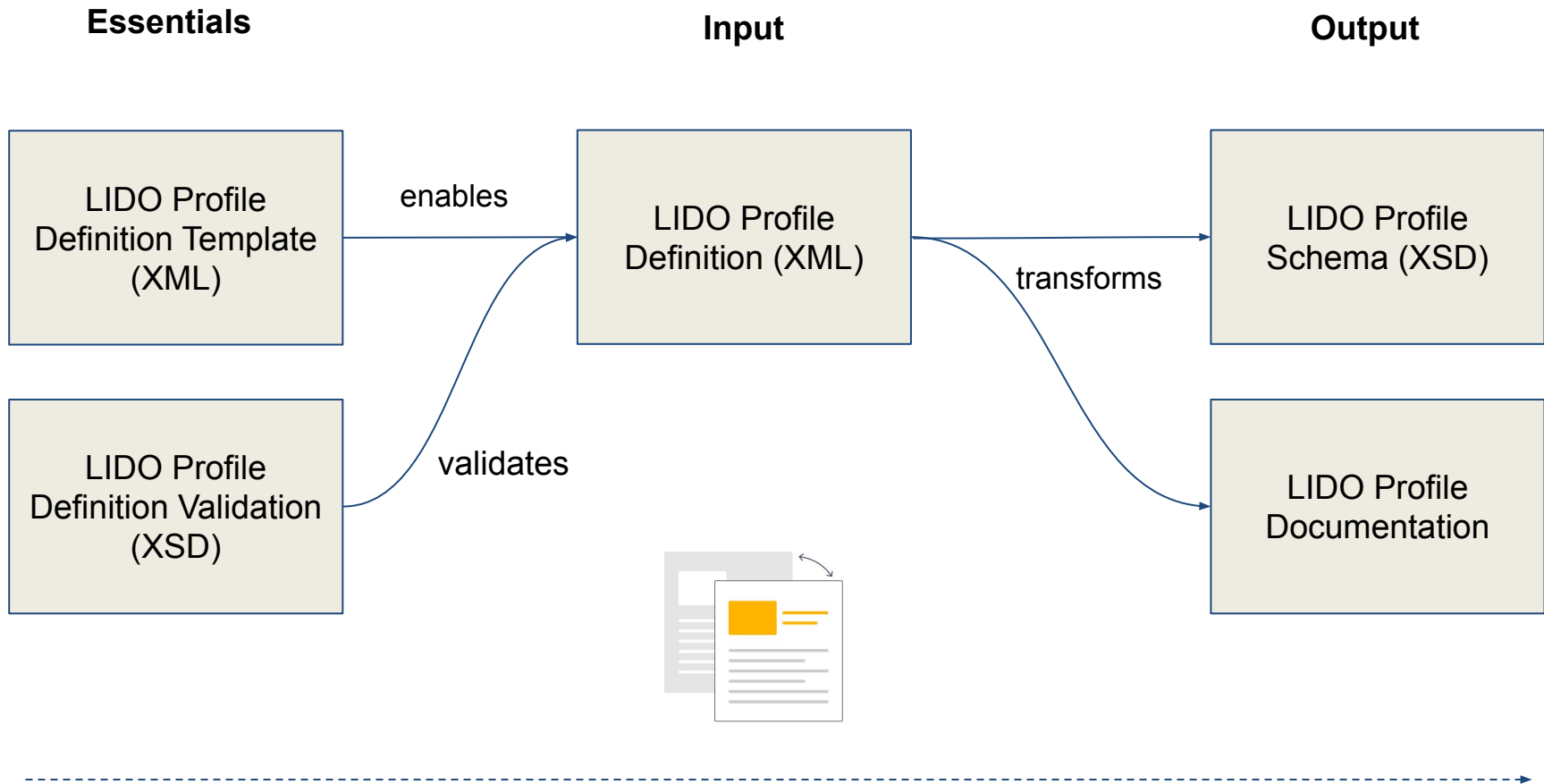
Altering the XSD

LIDO Profile Definition XML:

```
<elementSpec
  xml:id="lido:applicationProfile"
  mode="replace"
  name="applicationProfile"
  minOccurs="1"
  maxOccurs="1">
  <xs:annotation>
    <xs:documentation>
      <tei:ab type="descriptor">The LIDO profile to which this record adheres.</tei:ab>
      <tei:ab type="dataValues">Controlled format</tei:ab>
    </xs:documentation>
  </xs:annotation>
  <xs:appinfo>
    <sch:pattern>
      <sch:rule context="lido:applicationProfile">
        <sch:extends rule="sch_pref"/>
        <sch:extends rule="sch_alternate"/>
      </sch:rule>
    </sch:pattern>
  </xs:appinfo>
</elementSpec>
```

Final XSD Definition:

```
<xs:element
  id="applicationProfile"
  name="applicationProfile"
  minOccurs="1"
  maxOccurs="1">
  <!-- -->
</xs:element>
```



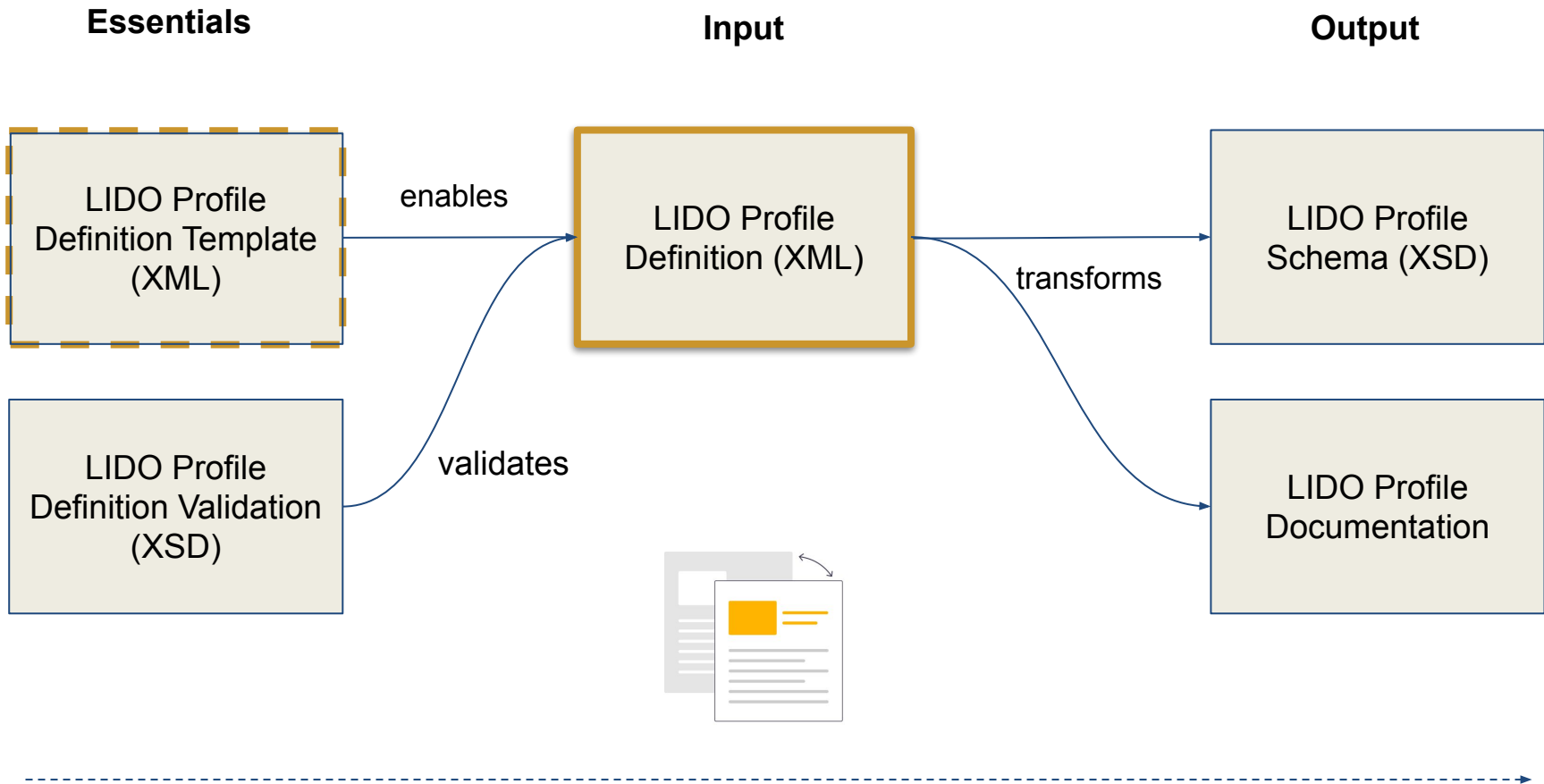
Additional Schematron Rules

Define the rule:

```
<sch:rule abstract="true" id="hps_workId" mode="add">
  <sch:assert
    test="following-sibling::lido:workID" role="error">
      <sch:name/> if the current repository is known, the inventory number must be given.
    </sch:assert>
  </sch:rule>
```

Add the rule to the relevant element:

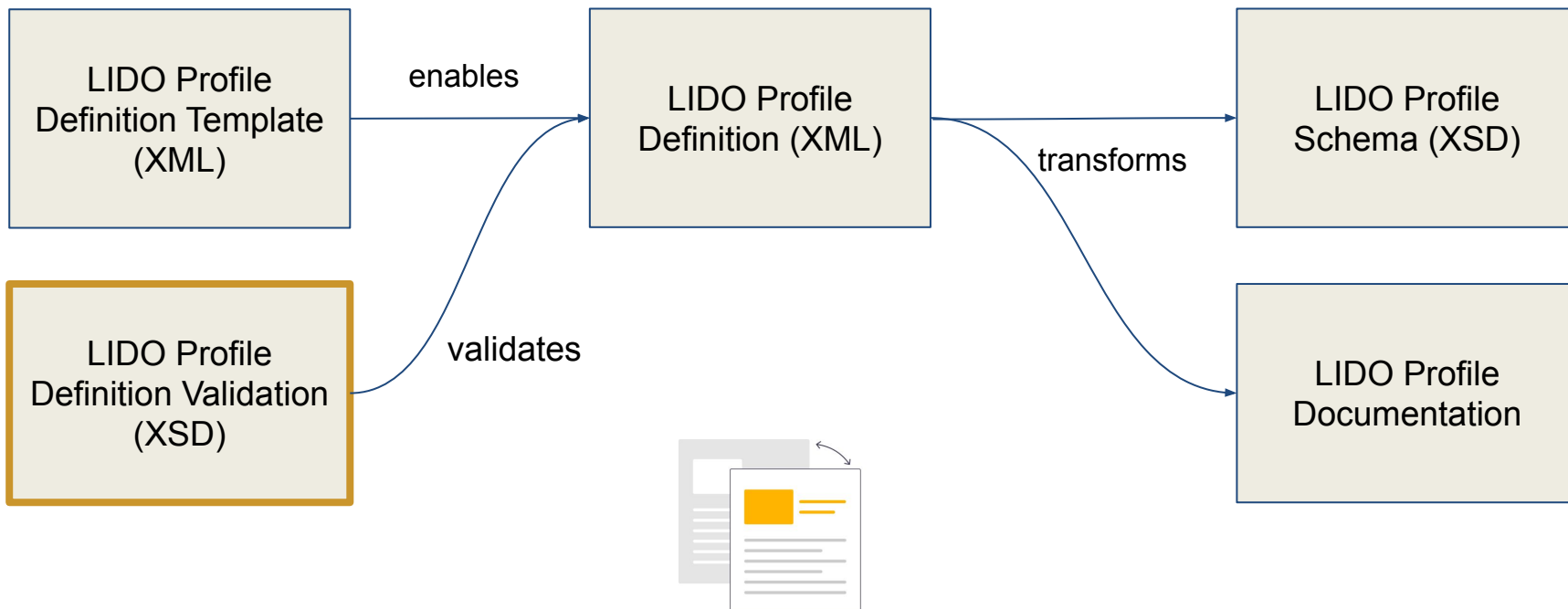
```
<elementSpec xml:id="lido:repositoryName" mode="change">
  <sch:rule context="lido:repositoryName">
    <sch:extends rule="hps_workID"/>
  </sch:rule>
</elementSpec>
```

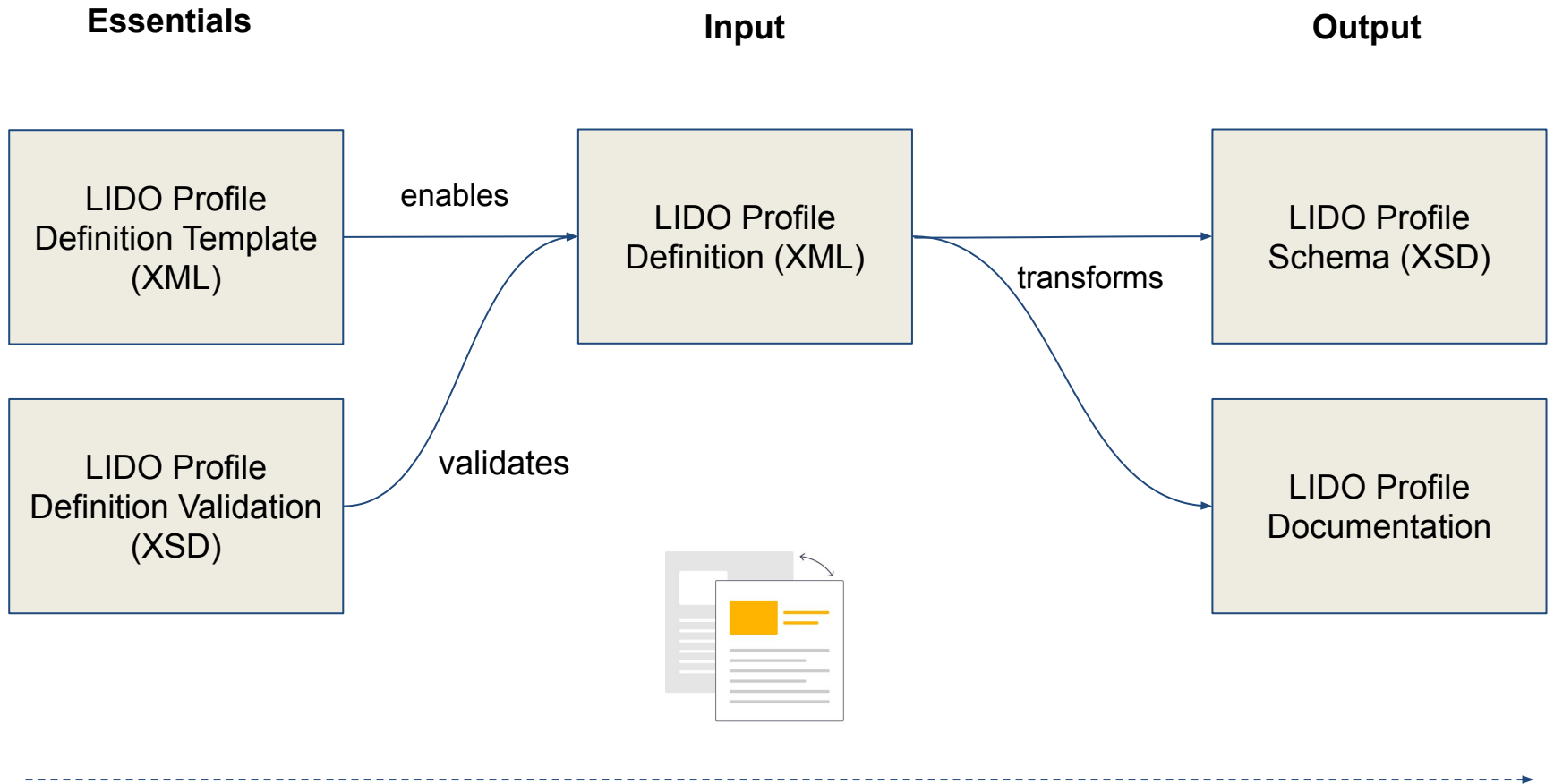


Essentials

Input

Output





Future work

- Framework
- Registry for LIDO Profiles

Contact

lido-feedback@sub.uni-goettingen.de
<https://lido-schema.org>