

LEIBNIZ-INFORMATIONSZENTRUM
TECHNIK UND NATURWISSENSCHAFTEN
UNIVERSITÄTSBIBLIOTHEK



Implementation of the Albrecht Haupt collection portal based on the general-purpose semantic web application Vitro

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Agenda

- **Collection Albrecht Haupt / GESAH(+)
Project**
- **Ontology**
- **Technical Implementation**
- **Vitro customizations**
- **Dynamic API**

The Collection Albrecht Haupt of TIB Hannover



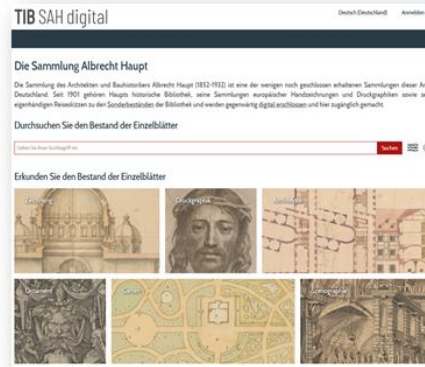
- Albrecht Haupt (1852-1932) was an architect and college/university lecturer in Hannover
- He left his private collection to the library of the technical college of Hannover in 1901
- The collection consists of three sections:
 - 6,000 drawings of his own hand
 - 6,200 prints and drawings from the 16th to 19th centuries from all over Europe on wide range of subjects (architecture, ornament, portraits etc.) → GESAH
 - 1,600 monographs on architecture and bound volumes of prints

GESAH(+) Project

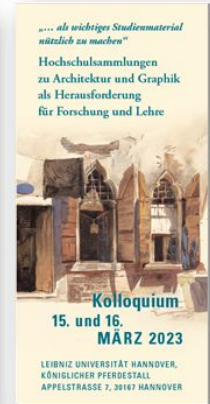
Cooperation with Leibniz-University Hannover, Institute for the History and Theory of Architecture, 3-year funding by DFG

6,200 single sheets were

- digitised
- indexed and
- published online



DFG Deutsche Forschungsgemeinschaft



Homepage: <https://projects.tib.eu/haupt>

Online collection: <https://sah.tib.eu/>

The Albrecht Haupt Collection

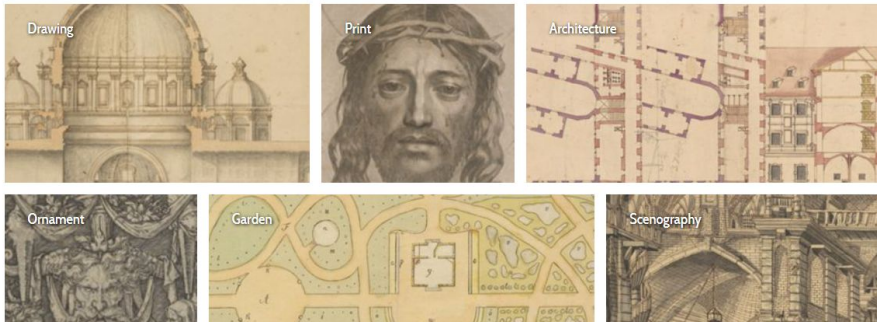
The collection of the architect and building historian Albrecht Haupt (1852-1932) is one of the few still cohesively preserved collections of this kind in Germany. Since 1901, Haupt's historical library, his collections of European hand drawings and prints as well as his own travel sketches have been part of the library's special holdings and are currently being [digitally indexed](#) and made accessible here.

Search the collection of individual graphic sheets

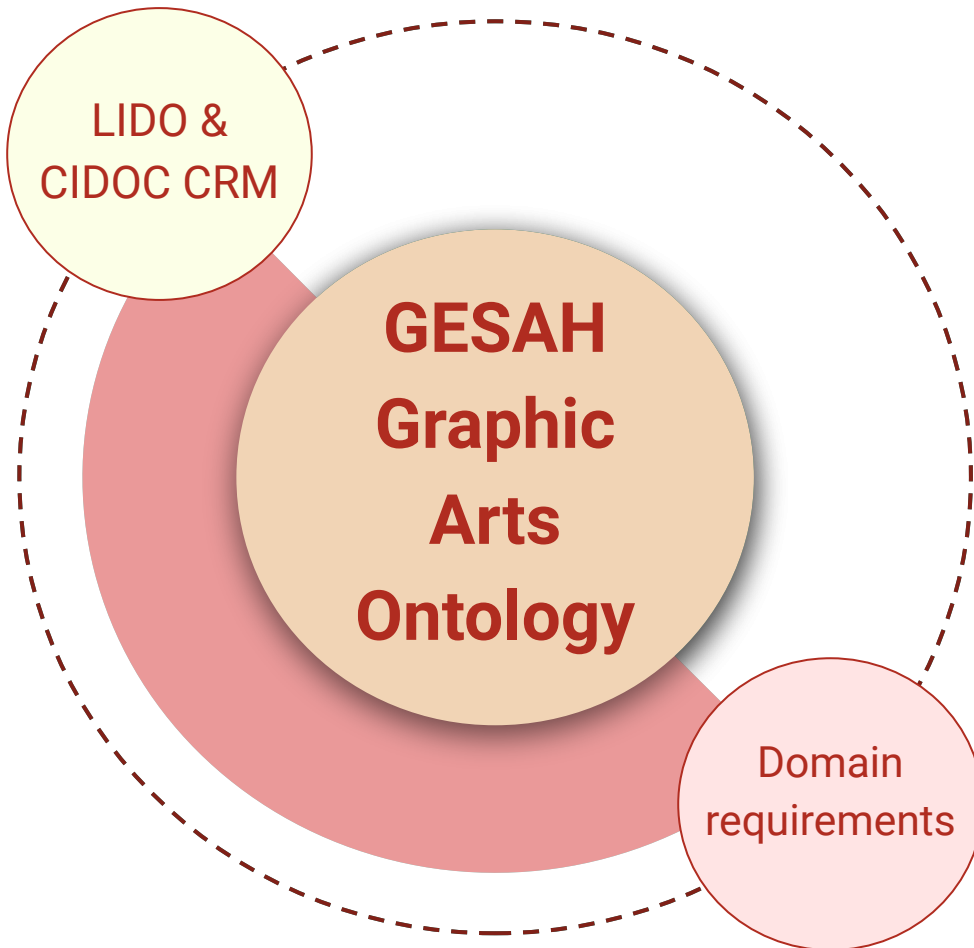
 Search  

Status of indexing: All sheets in the collection of prints and drawings have been digitised and made available here for browsing. Please note in your search that the degree of indexing still varies considerably. Objects that have been recorded only rudimentarily so far can best be filtered via the general facets of object type, geographical assignment, object category (generic term).

Explore the collection of individual graphic sheets



- Built with Vitro:
 - General-purpose web-based ontology and instance editor
 - Java Web application
 - Part of Open Source Software VIVO
 - Requires OWL Ontology



LIDO - Lightweight Information Describing Objects, XML-Schema and exchange format

CIDOC CRM - CIDOC Conceptual Reference Model

Domain Requirements

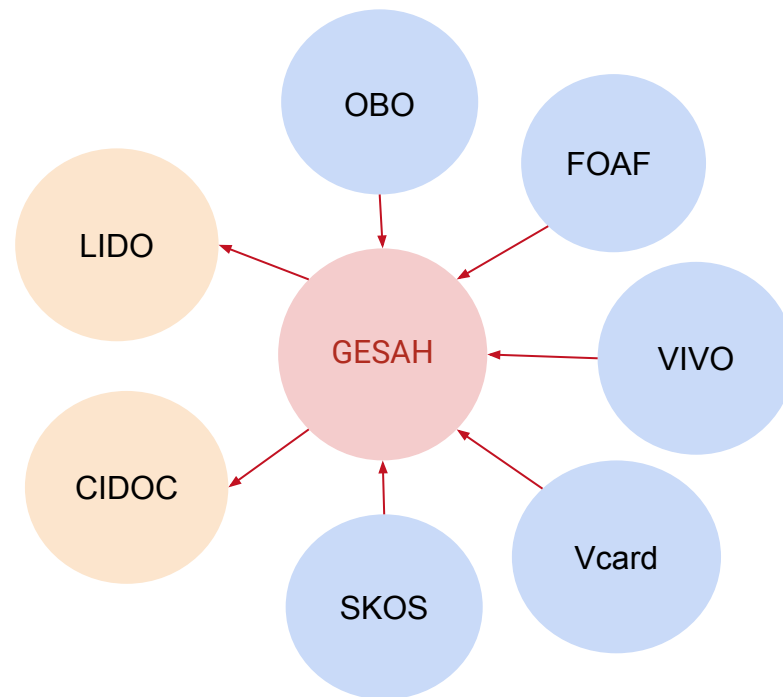
- Recording, classification and structured description of art works
- Easy access for the public and domain experts
- Curatorial documentation by the preserving institution

Competency questions

- Which German prints from before 1600 are part of the collection?
- Which Italian architectural drawings can be found in the collection?
- Which prints were issued in Antwerp?
- Which drawings were formerly attributed to Parmigianino?
- Which drawings and prints have a collector`s mark?
- Which drawings and prints were kept in the Collection of Hippolyte Destailleur (Paris)?
- Which drawings were kept under the former/current inventory no. (e.g. Albrecht Haupt`s folder numbered e.g. “XXXIIIa”)?
- Which drawings and prints depict the subject Adam and Eve?

Ontology - Technical Details

- Ontology development - made with Protégé
- rdfs:seeAlso references to CIDOC CRM, LIDO-Terminologie, Getty AAT
- Properties for providing data with AAT, Wikidata, GND and ICONCLASS identifiers.
- <https://github.com/tibonto/gesah>



Thelot, Jakob Gottlieb (engraver) signed by the artist
copper engraving on paper
Herz, Johann Daniel, d. Ä. (draftsman, publisher)
Augsburg, 1722-1740

Edition

Herz, Johann Daniel, d. Ä. (draftsman, publisher)
Augsburg, 1722 - 1740
n30875

Inscription

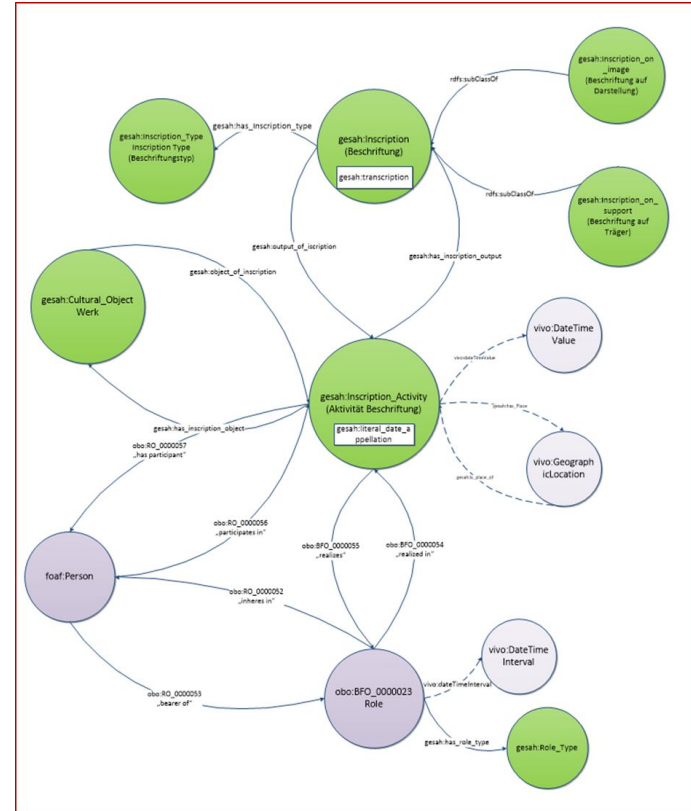
Inscription on image
Transcription: unten rechts: Iacob Gottlieb Thelot
sculpsit.
(artist's signature)
n15029

Inscription on image
Transcription: unten links: Ioh. Daniel Hertz invent. del.
et excud. Aug. Vind.
(publisher's address, artist's signature)
n9655

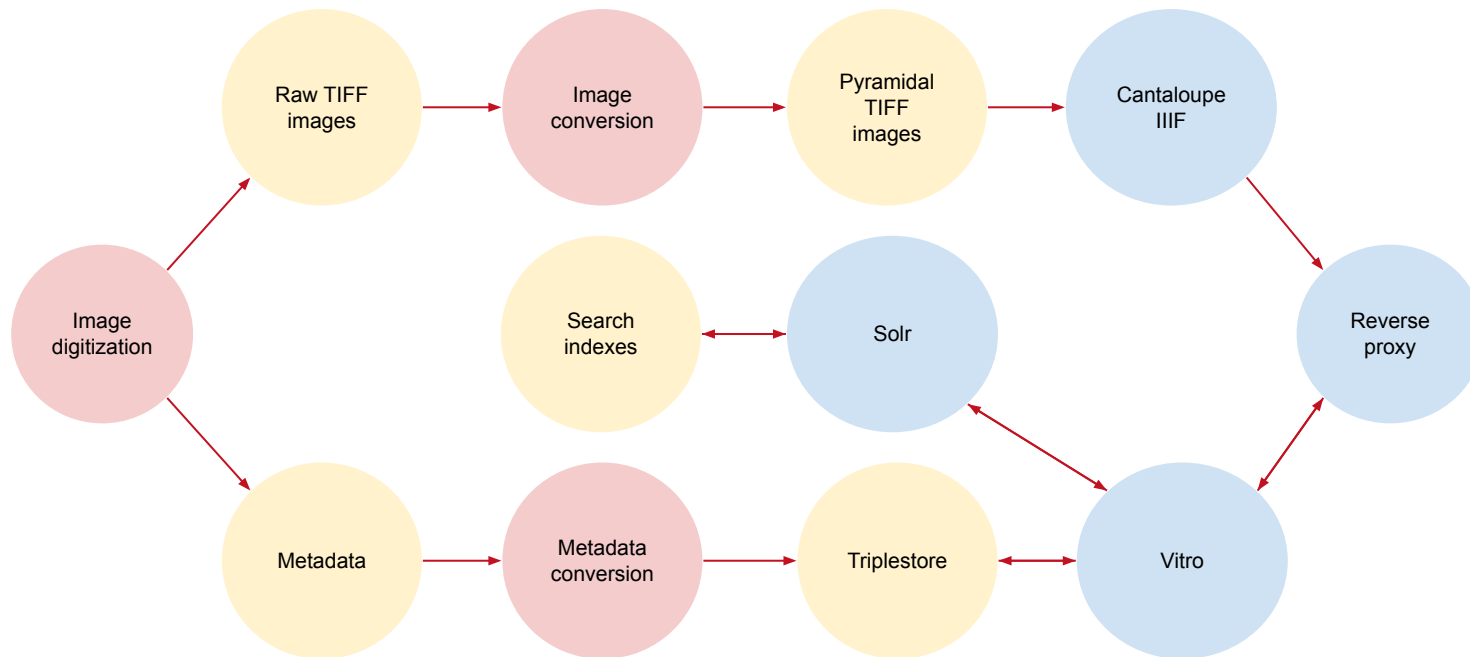
Inscription on support
Transcription: unten rechts (Bleistift): 1532 mtl
(inventory no., indistinct)
Person: Kurator Be (curator)
n12780



Technische Informationsbibliothek (TIB), Public Domain Mark 1.0



Technical Implementation



Vitro customizations

Display and Forms

Create creation entry for verschiedene Entwurfsskizzen (Theatermaske, Falter, Elfe mit Lyra)

Participant Type

Selected Participant: (Verify this match or change selection)

Role Type

Attribution Type

Material

Technique

Place Name

Literal Date Appellation

Comment (supplemental information about the origin of the cultural object)

Start Year (YYYY)

End Year (YYYY)

or

** required fields*

Create Object of preservation activity for Aviarium des Marco Varro

Preservation type *

Treatment specifics *

Participant Type

Selected Participant: Hochschule für angewandte Wissenschaft und Kunst (Verify this match or change selection)

Role Type

Selected Place: Hannover (Verify this match or change selection)

Literal Date Appellation

Comment (supplemental information about the origin of the cultural object)

Start Year (YYYY)

End Year (YYYY)

or

** required fields*

Vitro customizations

Extended search

Home

Search

Object Category (generic term) : architecture (8)
Object type : Drawing (8)
Geographic assignment : Scandinavian (8)
Stylistic classification : Neo-Classicism (8)
Place : Stockholm (8)

Objects
Subject
Additional filters

Object type
Geographic assignment
Object Category (generic term)
Participant
Place
Dates

Adelcrantz, Carl Fredrik (2)
Carl XIII., König von Schweden (1)
Cuvilliers, d. J., François de (1)
Desprez, Louis-jean (1)
Estenberg, Pehr (1)
Hammer, Christian (3)


Karl Johann VIV, Schweden, König (1)
Rehn, Jean Eric (1)
Serén, Johann Christian (1)
Sundvall, Carl Fredrik (1)
Tempelman, Olof Samuel (1)

Unbekannt, Deutschland 2. Hälfte 18. Jahrhundert (1)
Vossnack, Lieselotte (1)


8 results found

30 Results per page

Sort by Relevance



Dessein til Wäsby Kyrka i Malmöhus Län (Drawing)
 inv. gr SK Z 1: 2
 Desprez, Louis-jean (architect)
 1797
 Estenberg, Pehr (draftsman)
 Stockholm, 1797




Ritning till nytt Orgelverk for Markims Kyrka af Stockholms Län (Drawing)
 inv. gr SK Z 1: 1
 Sundvall, Carl Fredrik (architect)
 Stockholm, 1828

Objects
Subject
Additional filters

Object type
Geographic assignment
Object Category (generic term)
Participant
Dates


from 1487 to 1820




2 results found

30 Results per page

Sort by Relevance



Studienblatt eines Gartens mit Architekturstaffagen (Drawing)
 inv. m D A 12: 1
 Unbekannt, Süddeutschland Ende 17. Jh. (draftsman)
 Ende 17. Jahrhundert / Anfang 18. Jahrhundert

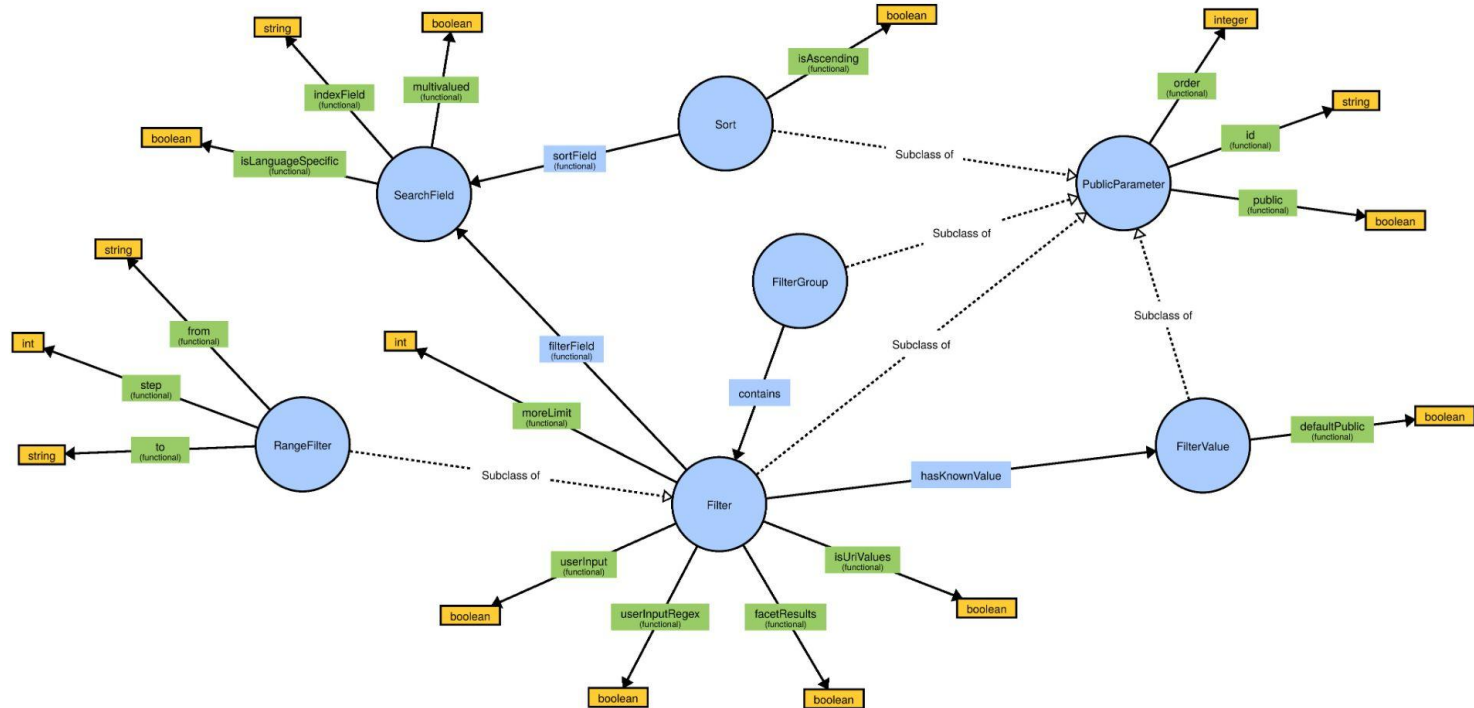


[Architektur, Italienisch] (Drawing)
 inv. m I Z A 3: 4
 Pannini, Francesco (draftsman)
 2. Hälfte 18. Jahrhundert
 Unbekannt, Italien 18. Jahrhundert (draftsman)
 Anfang 18. Jahrhundert

<https://sah.tib.eu/extendedsearch>

Vitro customizations

Search ontology



<https://github.com/vivo-project/Vitro/pull/382>

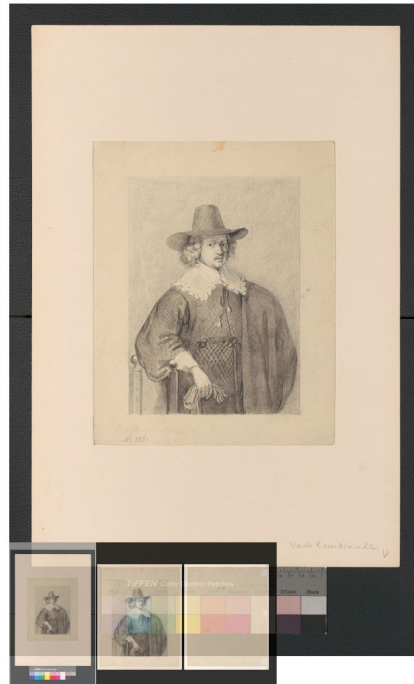
Vitro customizations

Metadata for image indexing

[Malerei/ figürliche Kunst, Niederländisch] [Zeichnung](#)



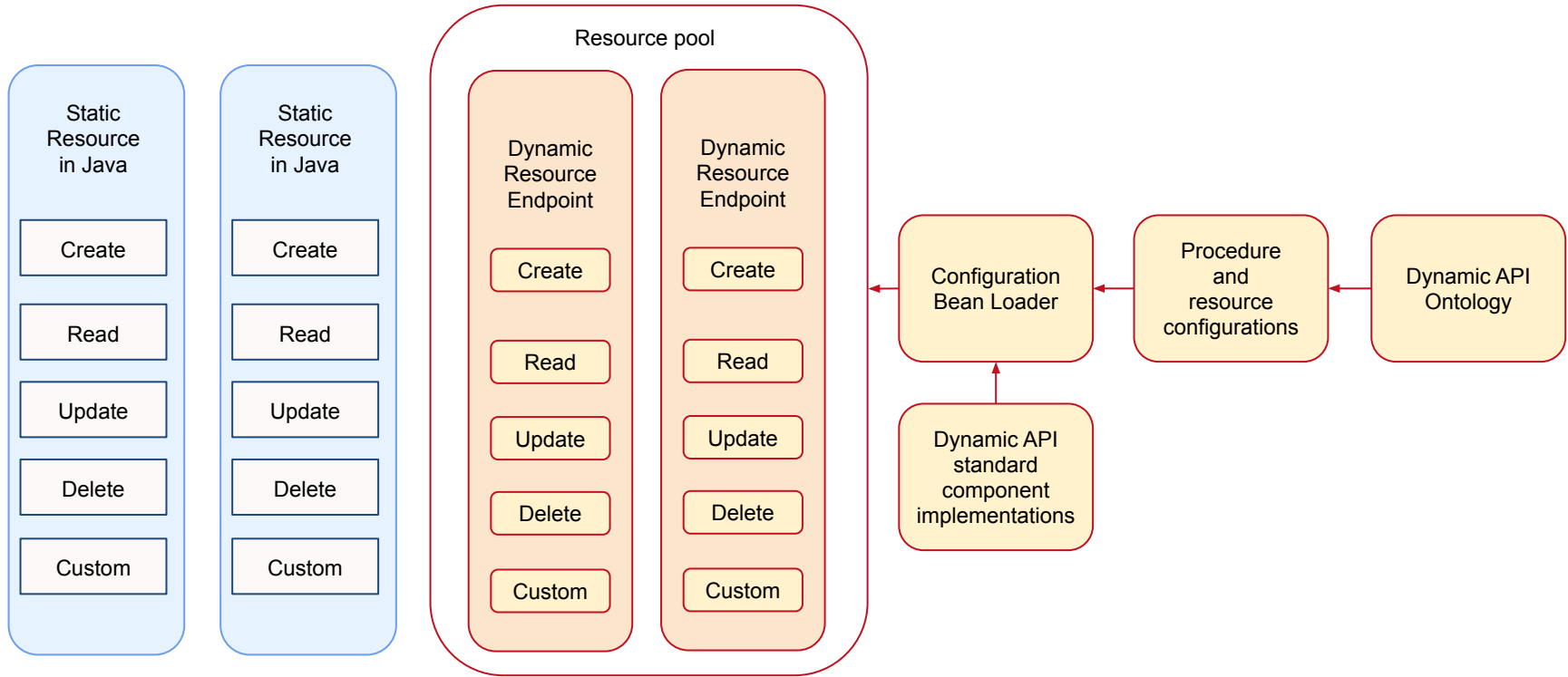
Alte Inventar-Nr.	MNZ 1(1)
Sachgruppe (Oberbegriff)	Malerei/ figürliche Kunst
Geographische Einordnung	Niederländisch
Maße	Blatt: 27,4 cm x 21,8 cm Darstellung: 21,4 cm x 15,4 cm Träger: 48,7 cm x 33,1 cm
aktuell aufbewahrende Institution	Technische Informationsbibliothek (TIB), Hannover
Lizenz der Metadaten	Technische Informationsbibliothek (TIB), CCO 1.0 Universal (Public Domain Dedication)



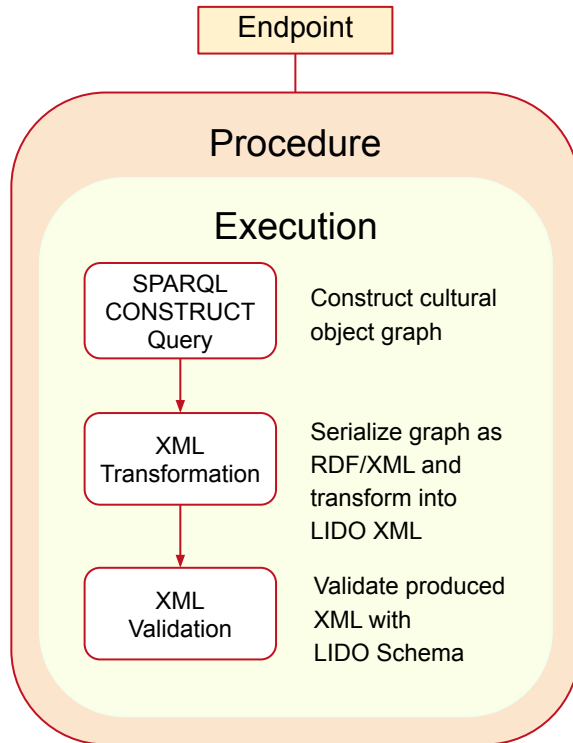
Technische Informationsbibliothek (TIB), Public Domain Mark 1.0

```
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    "creator": {
      "@type": "Organization",
      "name": "Technische Informationsbibliothek (TIB)"
    }
  }
]
</script>
```

Dynamic API Overview



LIDO Export implemented in Dynamic API



```

:procedure
  a
  dynapi:publicAccess
  dynapi:hasFirstStep
  dynapi:providesParameter
  dynapi:providesParameter
  dynapi:providesParameter
  dynapi:Procedure ;
  "true"^^xsd:boolean ;
  :step1 ;
  :parameter_validation_errors ;
  :parameter_lido_xml ;
  :parameter_validation_result .

:step1
  a
  dynapi:hasNextStep
  dynapi:hasOperation
  dynapi:OperationalStep ;
  :step2 ;
  :operation_export_cultural_object_to_lido .

:operation_export_cultural_object_to_lido
  a
  dynapi:hasModel
  dynapi:sparqlQueryText
  dynapi:requiresParameter
  dynapi:providesParameter
  dynapi:SparqlConstructQuery ;
  model:full_union ;
  ""SPARQL CONSTRUCT Query text"" .
  :parameter_cultural_object_uri ;
  :parameter_cultural_object_graph .

:step2
  a
  dynapi:hasNextStep
  dynapi:hasOperation
  dynapi:OperationalStep ;
  :step3 ;
  :operation_XMLTranslation .

:operation_XMLTranslation
  a
  dynapi:xslt
  dynapi:inputXml
  dynapi:outputXml
  dynapi:XMLTransformation ;
  :parameter_xml_transformation_rules ;
  :parameter_cultural_object_graph ;
  :parameter_lido_xml .

:step3
  a
  dynapi:hasOperation
  dynapi:OperationalStep ;
  :operation_XMLValidation .

:operation_XMLValidation
  a
  dynapi:xsd
  dynapi:inputXml
  dynapi:errorMessage
  dynapi:result
  dynapi:XMLValidation ;
  :parameter_xml_schema_rules ;
  :parameter_lido_xml ;
  :parameter_validation_errors ;
  :parameter_validation_result .
  
```

<https://sah.tib.eu/dynapi-rest-docs>

Lessons learned / outlook

- It's feasible to use Vitro for representing a collection of art works. However, considerable efforts are required for customization.
- Strong needs for making creation of custom entry forms easier
- Outlook
 - Ontology paper
 - “Building bridge” to the NFDI4Culture
 - Dynamic API for entry forms
 - Export to LIDO



Thank you for your attention!

For more information:

Homepage: <https://projects.tib.eu/haupt>

Online collection: <https://sah.tib.eu/>

GESAH Graphic Arts Ontology: <https://github.com/tibonto/gesah>

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