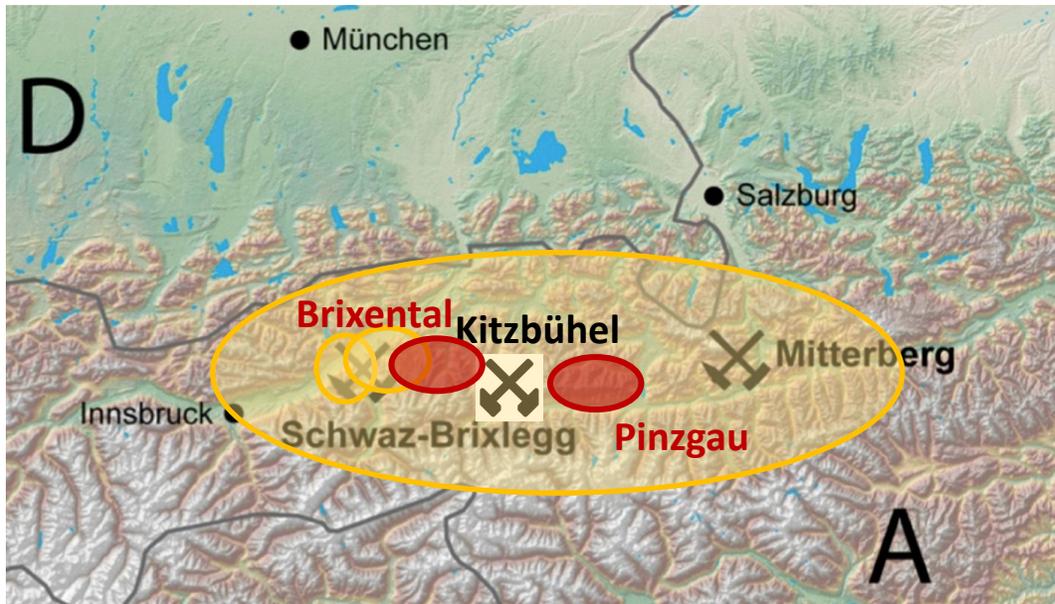




# INFORMATION INTEGRATION FOR PREHISTORIC MINING ARCHAEOLOGY

THE GOAL: DOCUMENTATION AND DISCOVERY OF PAST MINING ACTIVITIES IN WESTERN AUSTRIA FROM PREHISTORY TO HISTORY & CLOSING THE GAPS AT BRIXENTAL AND PINZGAU



Prehistoric Copper Production in the Eastern and Central Alps & Open Research Data Pilot



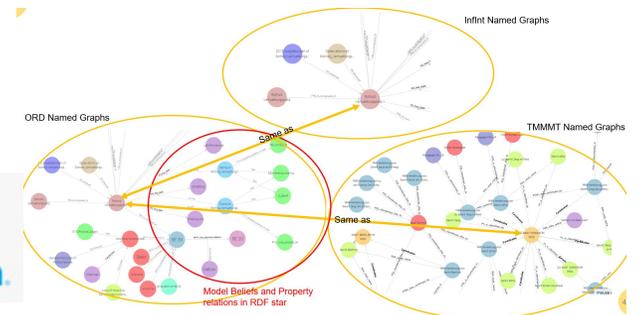
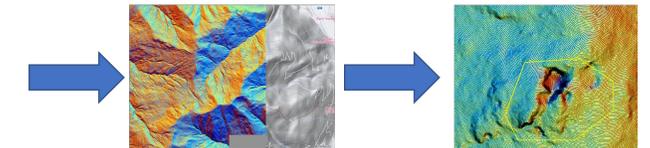
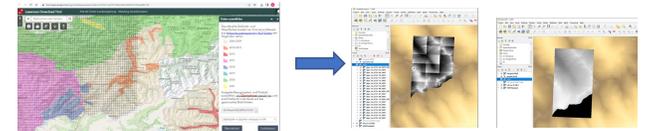
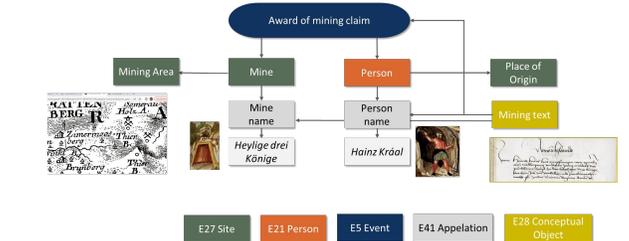
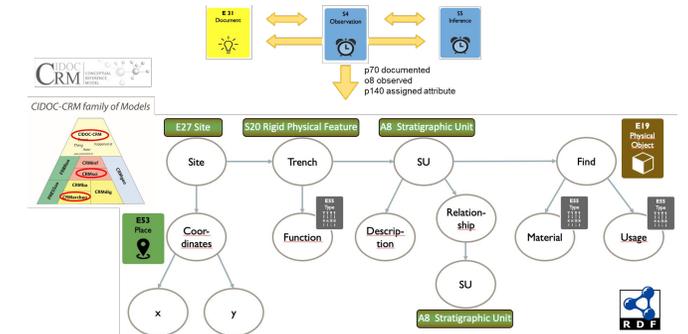
Text Mining Medieval Mining Texts



Geodata



Information Integration for Prehistoric Mining Archaeology: Closing the gaps at Brixental and Pinzgau

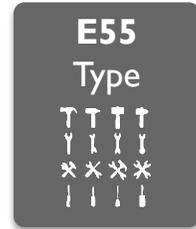


CIDOC-CRM: *E-Numbers*

CRMsci: Scientific observation model *S-Numbers*

CRMinf: Argumentation model *I-Numbers*

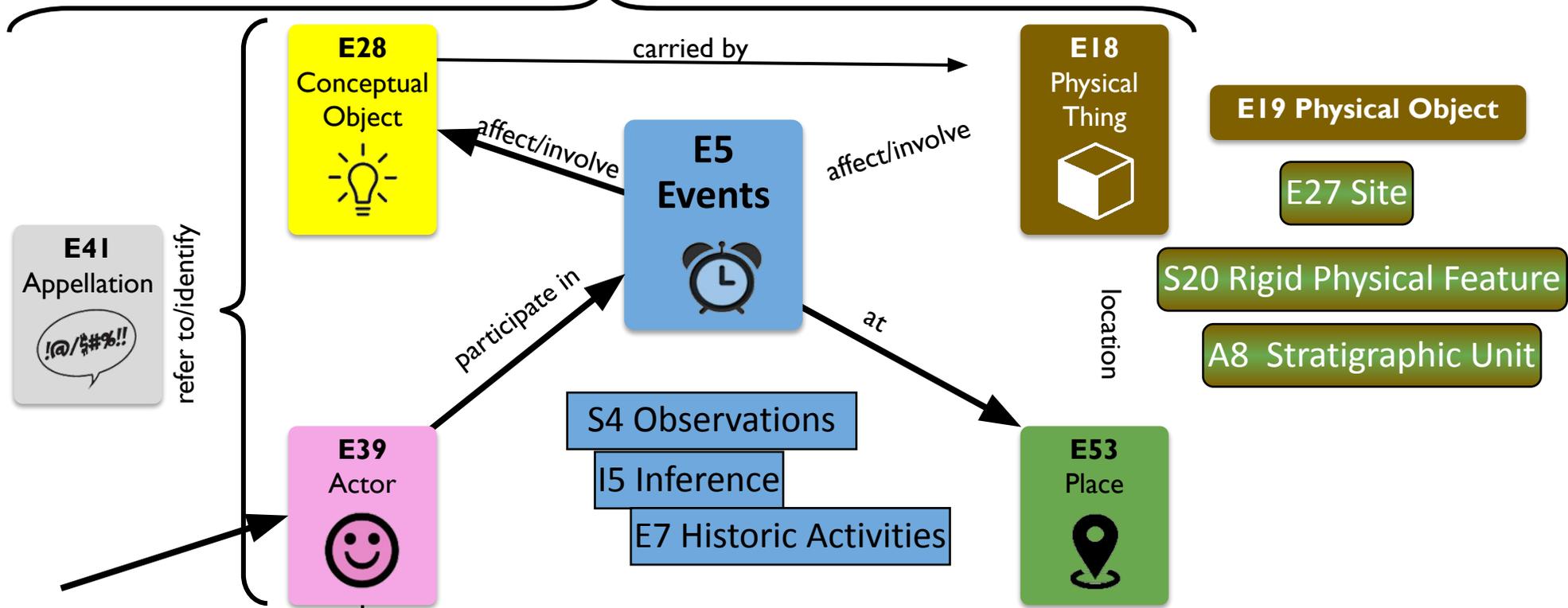
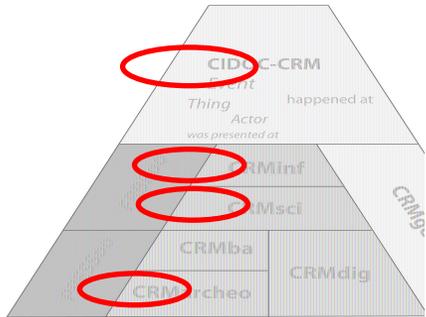
CRMarchaeo: Excavation model *A-Numbers*



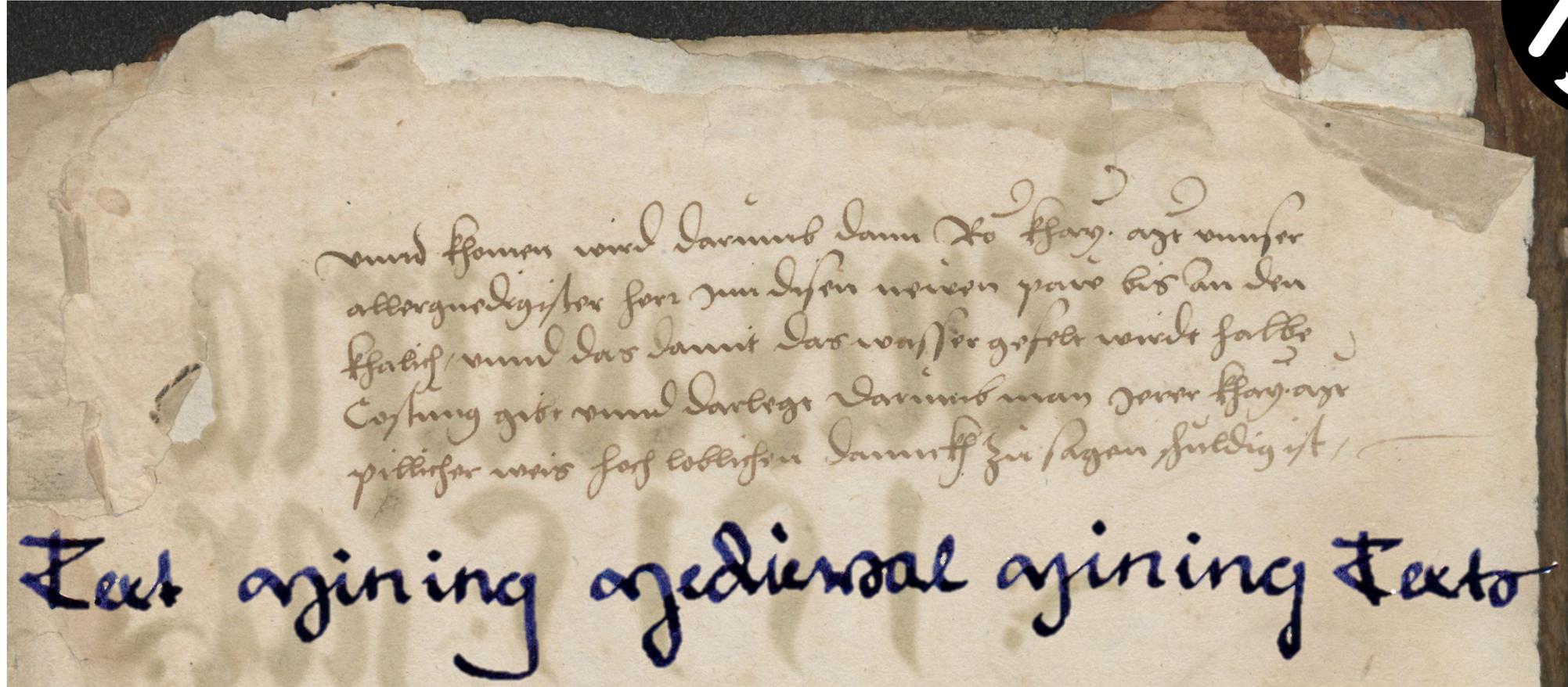
refer to/refine



CIDOC-CRM family of I



Source: Anais Guillem, George Bruseker modified by Gerald Hiebel



<https://miningtext.at/>

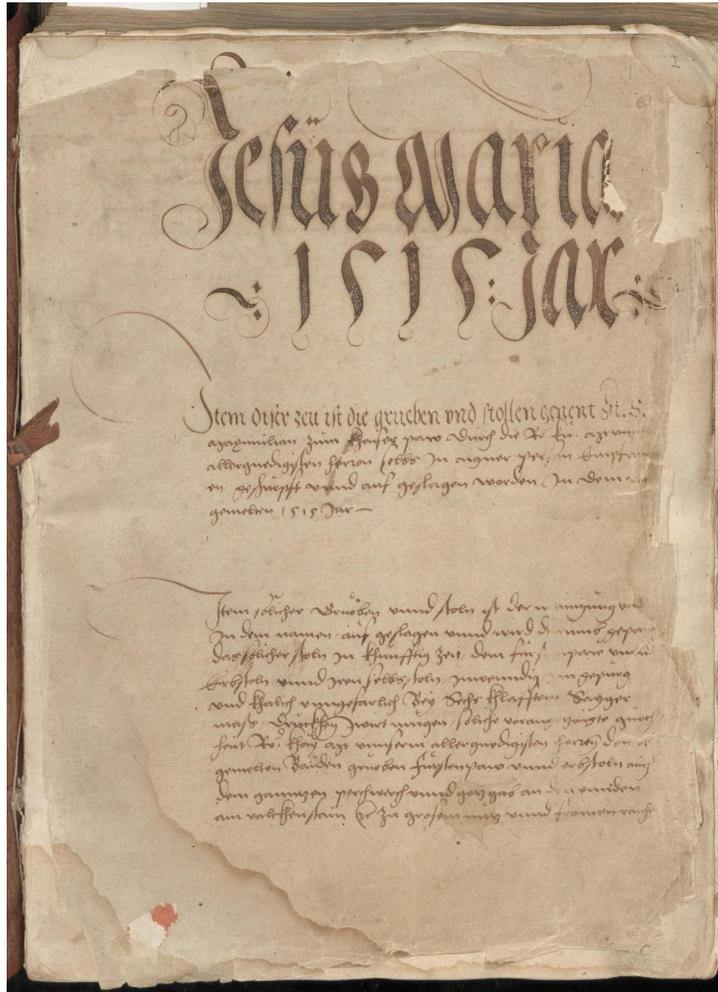
## Keydates

From 02/2019 – 02/2022

Funding: Austrian Academy of Sciences (ÖAW) go!Digital next generation 2018

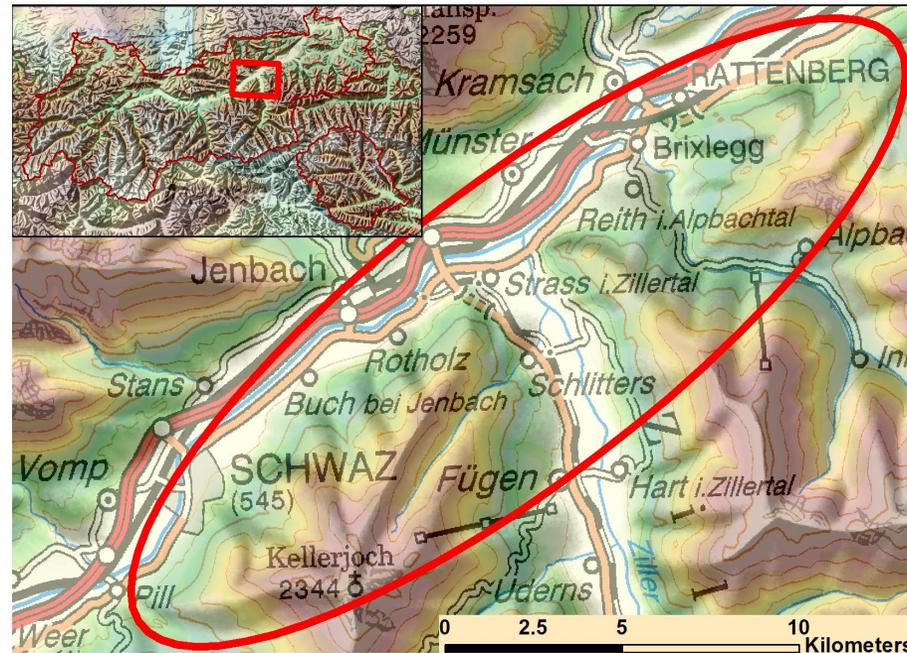
Interdisciplinary team at the University of Innsbruck (Department of Linguistics, Digital Science Center, Institute of Archaeologies)

# THE PROJECT „TEXT MINING MEDIEVAL MINING TEXTS“- TMMMT

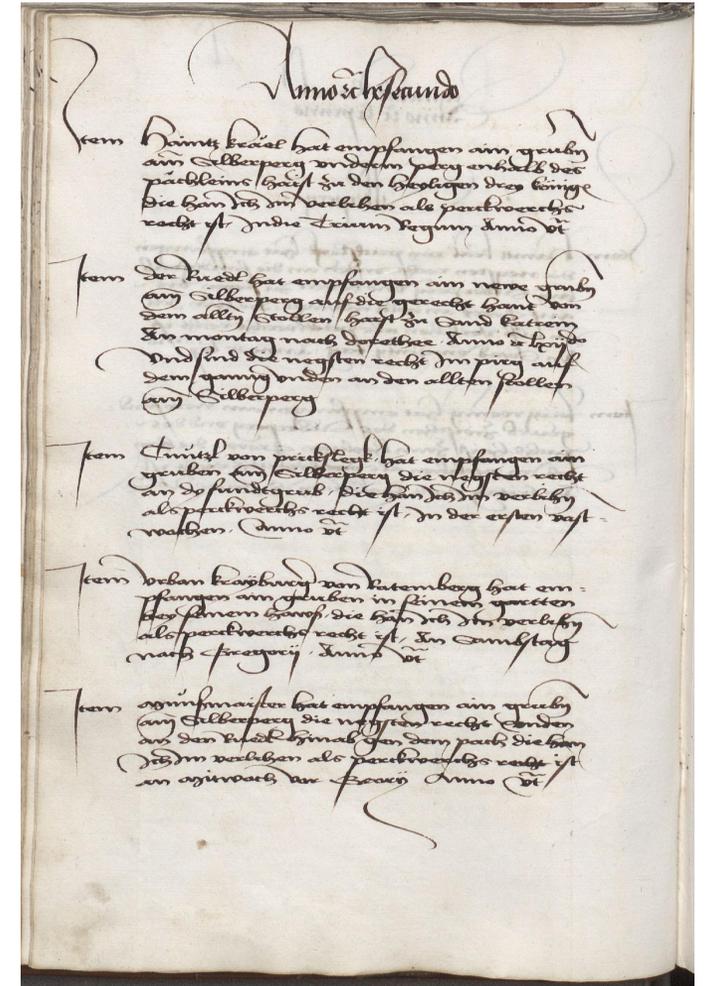


Schwazer Berglehenbuch, ca. 1515  
(Hs. 1587)

## Schwaz - Rattenberg

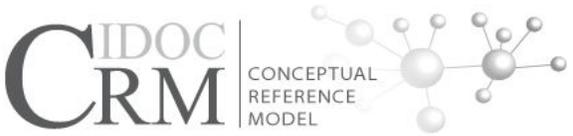
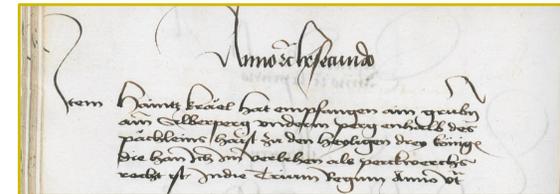
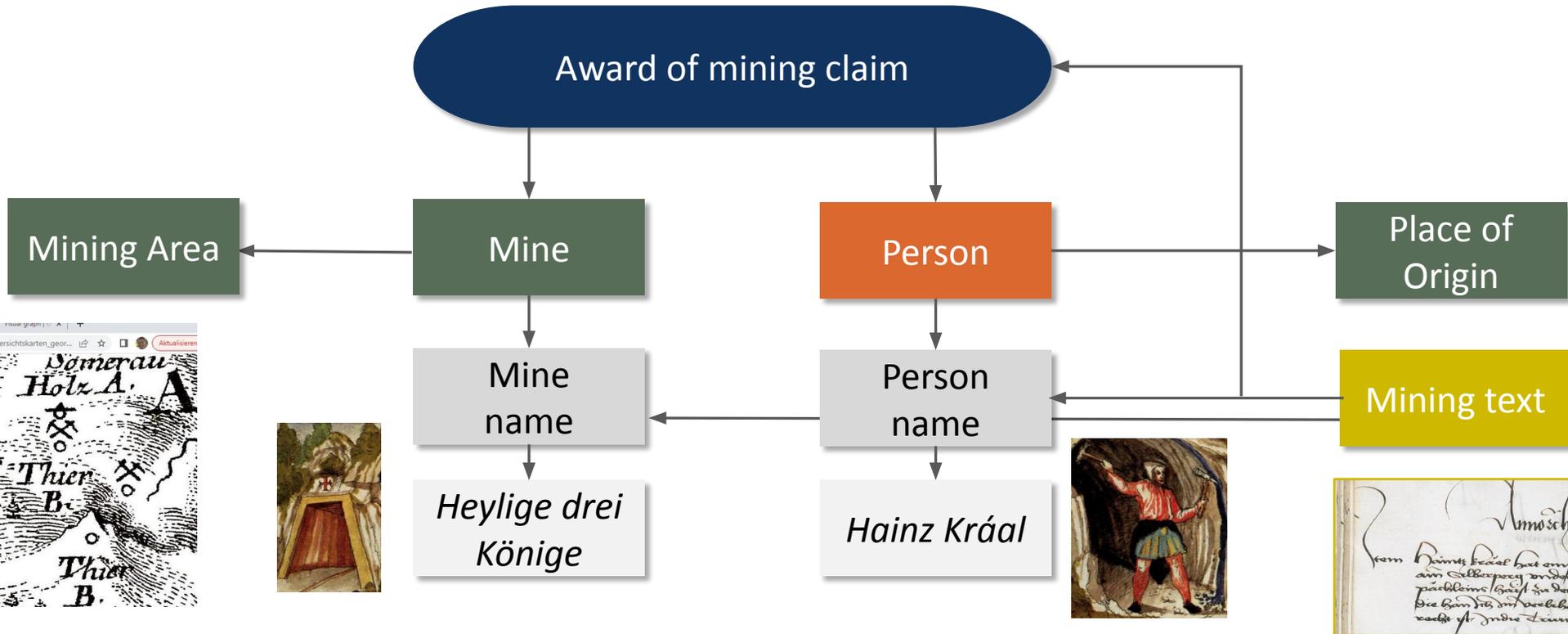


Tiroler Landesarchiv zu Innsbruck



Verleihbuch der Rattenberger  
Bergrichter, 1460-1463 (Hs. 37)

# SEMANTIC NETWORK CREATION FOR MINING AREAS, PERSONS, MINES



E27 Site

E21 Person

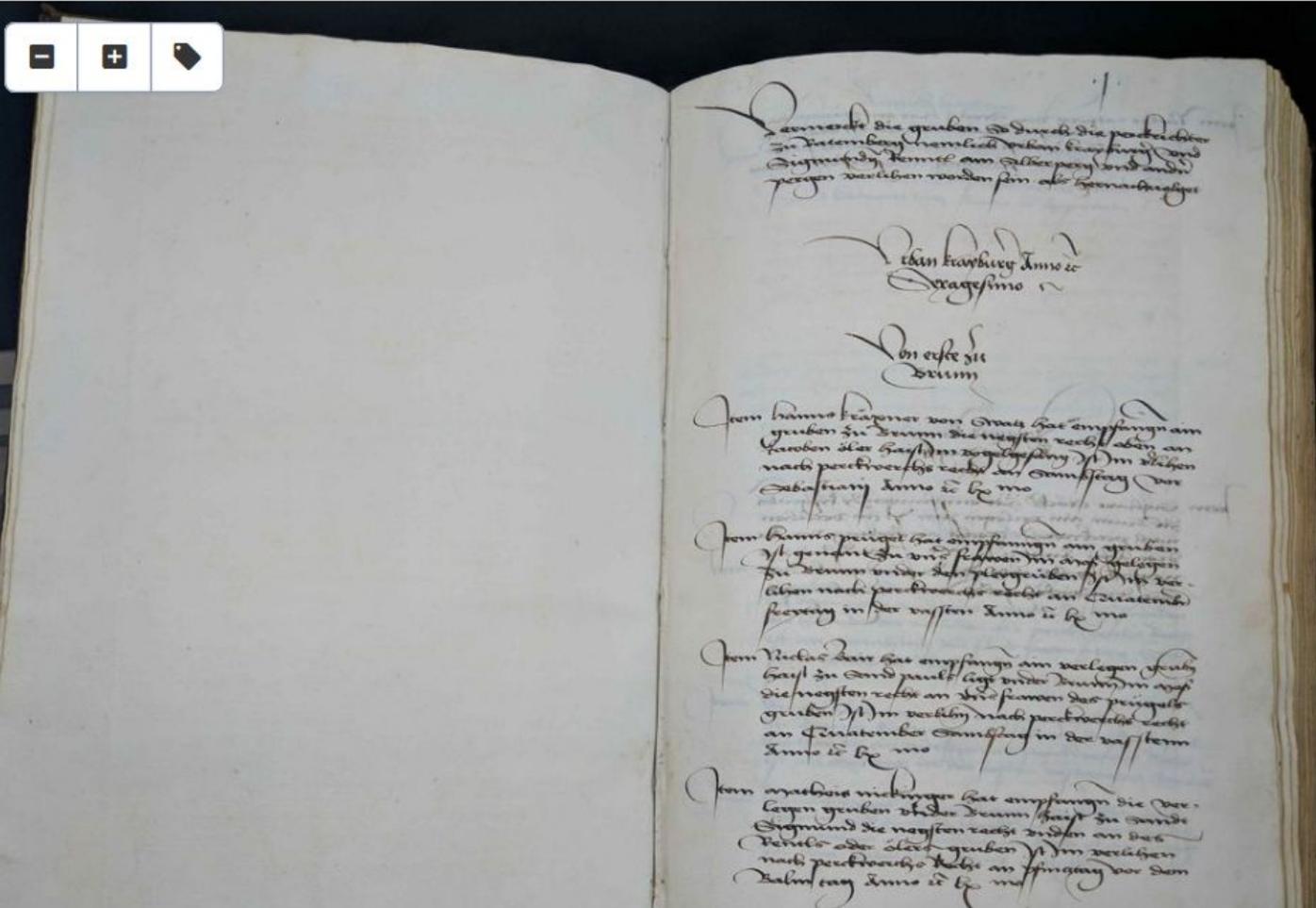
E5 Event

E41 Appellation

E28 Conceptual Object

< Zurück zum Dokument

Verleihbuch\_Rattenberger\_Bergrichter\_Hs37 - Seite 5 



Von erste zu

Brunn

<https://app.transkribus.org/sites/mining-hub/doc/643339/detail?pageid=5>

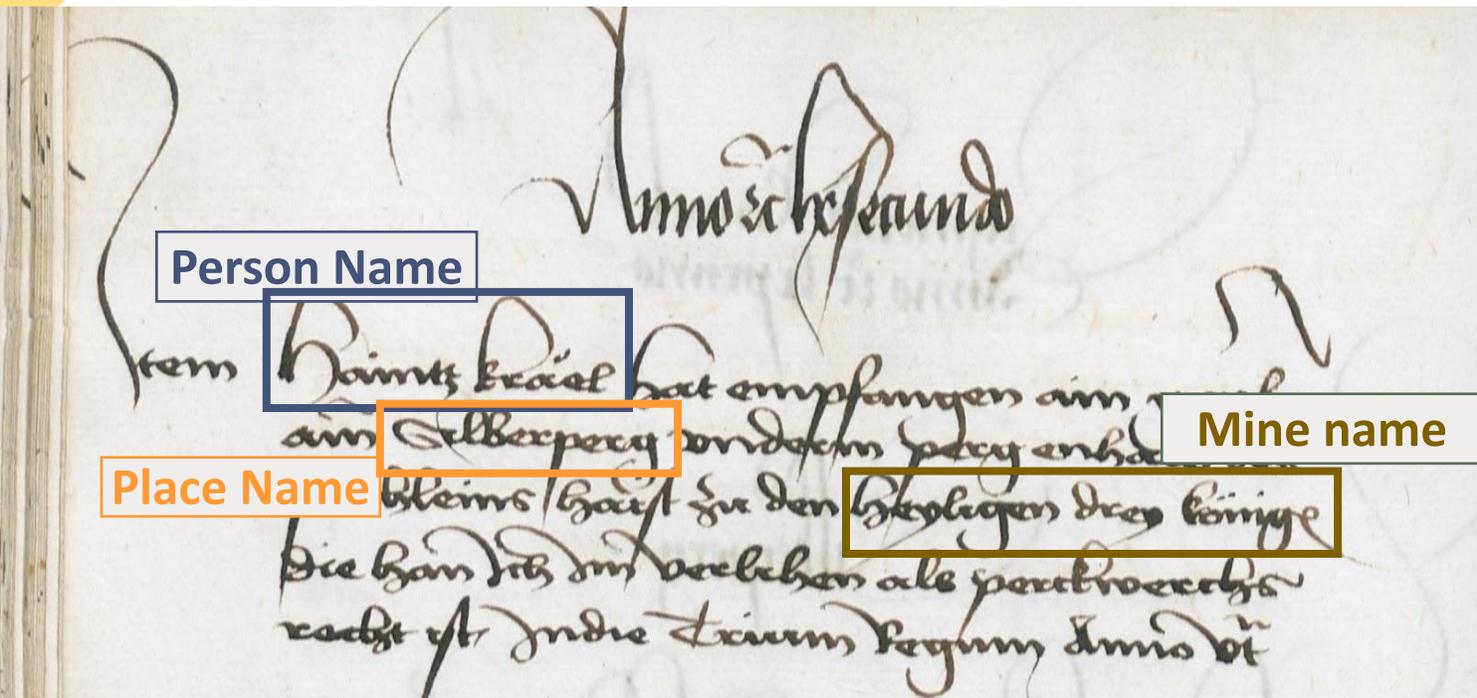
.i.

Vermerckt die gruben So durch die perckrichter zu Ratemberg nemlich vrban krayburger vnd Sigmunden Renntl am Silberperg vnd andren pergen verlihen worden sein, als hernachuolet

Vrban Krayburger Anno etc.

Sexagesimo

Jtem Hanns kráxner von Swatz hat empfangn ain gruben zu Brunn die negsten recht oben an Jacoben öler haist Jm vogelgesang, Ist Jm verlihen nach perckwerchs recht an Sambstag vor



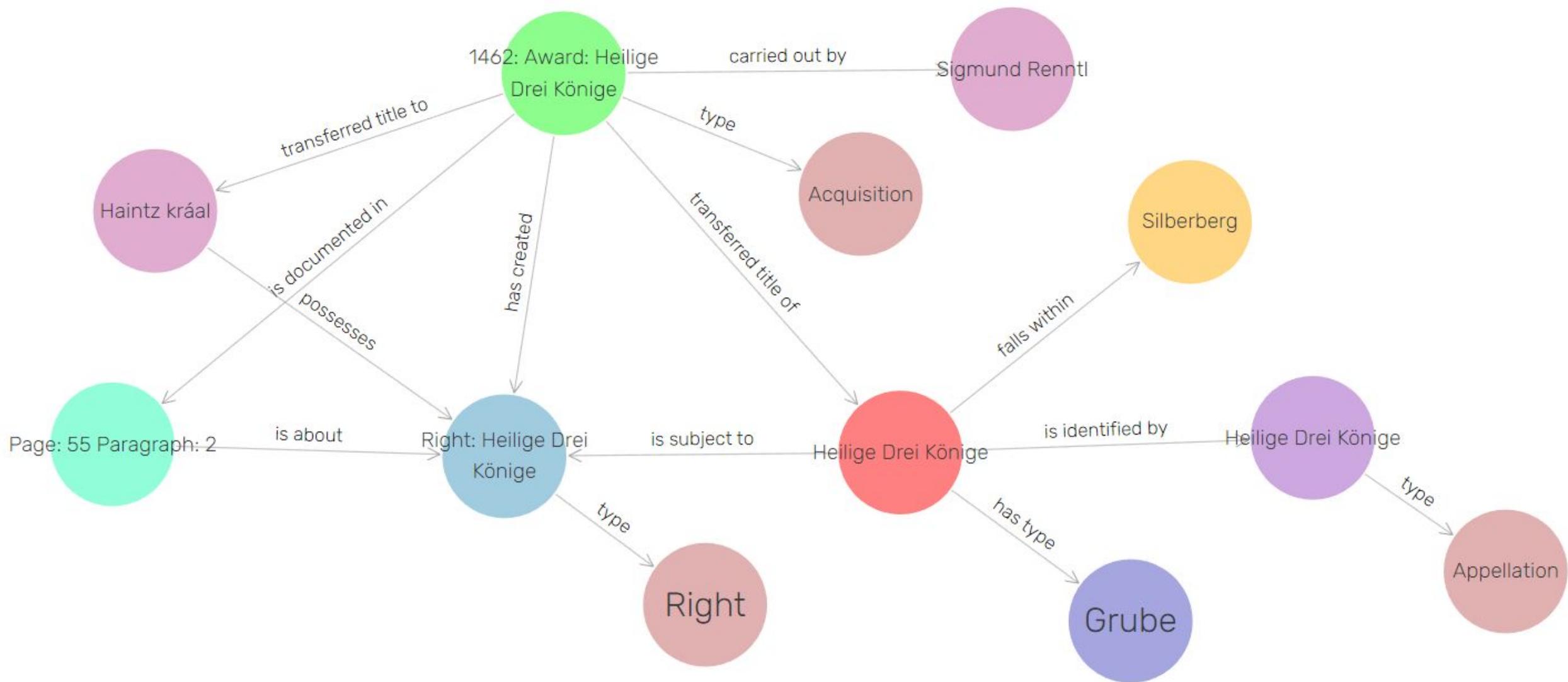
Item Haintz kraal hat empfangen ain gruben  
am Silberperg vnderm perg enhalb des  
pächleins hais zu den heyligen drey künigen  
die har  
recht is

undefined
name Heilige Drei Könige
id hs37/et8_m3
typ Grube
prov tmmmt
graph_link <a href="https://disc-semantic.uibk.ac.at/graphs-visualizations?uri=http:%2F%2Fuibk.ac.at%2FTMMMT%2FS20%2">https://disc-semantic.uibk.ac.at/graphs-visualizations? uri=http:%2F%2Fuibk.ac.at%2FTMMMT%2FS20%2</a>

Schließen

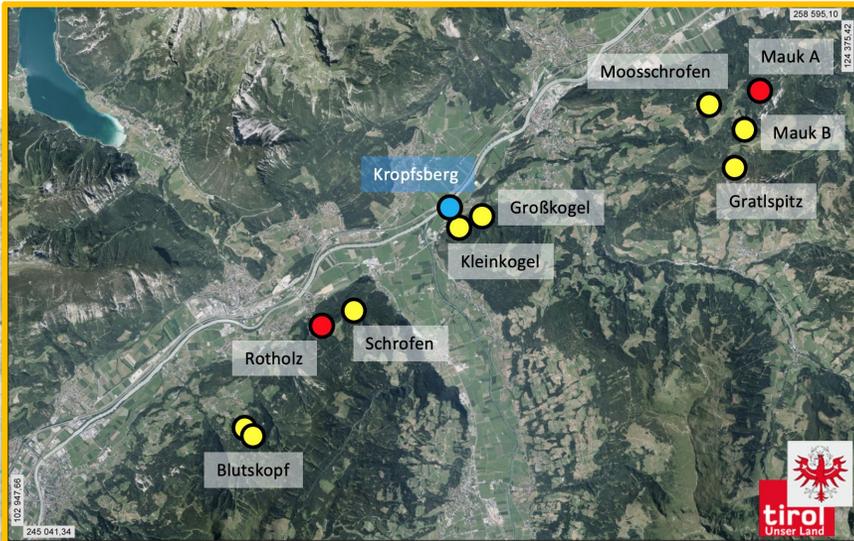
[https://app.transkribus.org/sites/mining-hub/  
doc/643339/detail?pageid=55](https://app.transkribus.org/sites/mining-hub/doc/643339/detail?pageid=55)

# FROM THE TEXT TO THE NETWORK: MINE - HEILIGE DREI KÖNIGE



# PREHISTORIC COPPER PRODUCTION IN THE EASTERN AND CENTRAL ALPS

## FOR THE AUSTRIAN PART OF THE PROJECT -> OPEN RESEARCH DATA PILOT (ORD)



<https://www.uibk.ac.at/himat/projekte/dach/projektbeschreibung.html.en>



Partner	Funding
<p>AUSTRIA:</p> <p>universität innsbruck</p>	<p>FWF</p>
<p>SWITZERLAND:</p> <p>Universität Zürich</p> <p>Archäologischer Dienst Graubünden Servetoch archeologic chantunal Servizio archeologico cantonale</p>	
<p>GERMANY:</p> <p>RUHR UNIVERSITÄT BOCHUM RUB</p> <p>DBM</p> <p>rem   Curt-Engelhorn-Zentrum Archäometrie gGmbH</p>	<p>FNSNF</p> <p>DFG</p>

<https://www.uibk.ac.at/projects/ord4mining-archaeo/>

### ORD: Documentation of

- Archaeological Surveys
- Archaeological Excavations
- Archaeometric

Analysis ↓

F<sub>indable</sub> A<sub>ccessible</sub> I<sub>nteroperable</sub> R<sub>eusable</sub>

# INFORMATION EXTRACTION: DOCUMENTATION FOR THE FEDERAL MONUMENTS OFFICE

Documentation for the Federal  
Monuments Office

List of findings

Digitized list

## Excavation of smelting site

- 87002.15.01 Verhüttungsplatz südlich der Ruine Rottenburg
  - 01 Deckblatt **01 Cover sheet**
  - 02 Bericht Teil A **02 Report part A**
  - Abbildungen **03 Report part B**
  - 03 Bericht Teil B **04 Technical data**
  - 04 Technische Daten **05 Stratigraphic unit list**
  - 05 SE Liste **06 Stratigraphic unit protocols**
  - 06 SE Protokollblätter **07 Object list**
  - 07 Objektlisten **08 Object group list**
  - 08 Objektgruppenliste **09 Plan list**
  - 09 Planliste **10 Find list**
  - 10 Fundliste**
  - 11 Grabungsprotokoll **11 Excavation protocol**
  - 12 Vermessungsunterlagen **12 Survey documentation**
  - 13 Originalmessdaten und Metadaten **13 Original measurement**
  - 13 Originalmessdaten und Metadaten **14 Archaeological action polygon**
  - 14 Maßnahmenpolygon-Maßnahmenkurzinformation
  - 15 Technischer Gesamtplan **15 Technical total plan**
  - 16 Detailpläne **16 Detailed plans**
  - eternit
  - Pdfs
  - Pdfs-interpretiert
  - Umzeichnungen
  - 17 Fotodokumentation **17 Foto documentation**
  - Schn1
  - Schn1-2\_gesamt
  - Schn2
  - 18 Straßenprofil **18 Stratigraphic unit present**
  - Alle Seg1-5
  - SE14
  - Seg1-2
  - Seg2-3
  - Seg3
  - Seg4-5
  - 19 Darstellung der stratigrafischen Einheiten **19 Conservation**
  - 19 Bericht zur konservatorischen Maßnahmen am Fundmaterial

Pro

Fundliste Seite: \_\_\_\_\_

Mnr.: 87002.16.01	Mbez.: Bergbaurevier Schwaz-Brixlegg – prähistorische Kupferabbaustellen		
Gst. Nr.: 1167/34	Flur: Großkogel	KG: 83116 Reith i. A.	Aus: _____
Gde.: Reith i. A.	VB/PB: Kufstein	Bl.: Tirol	

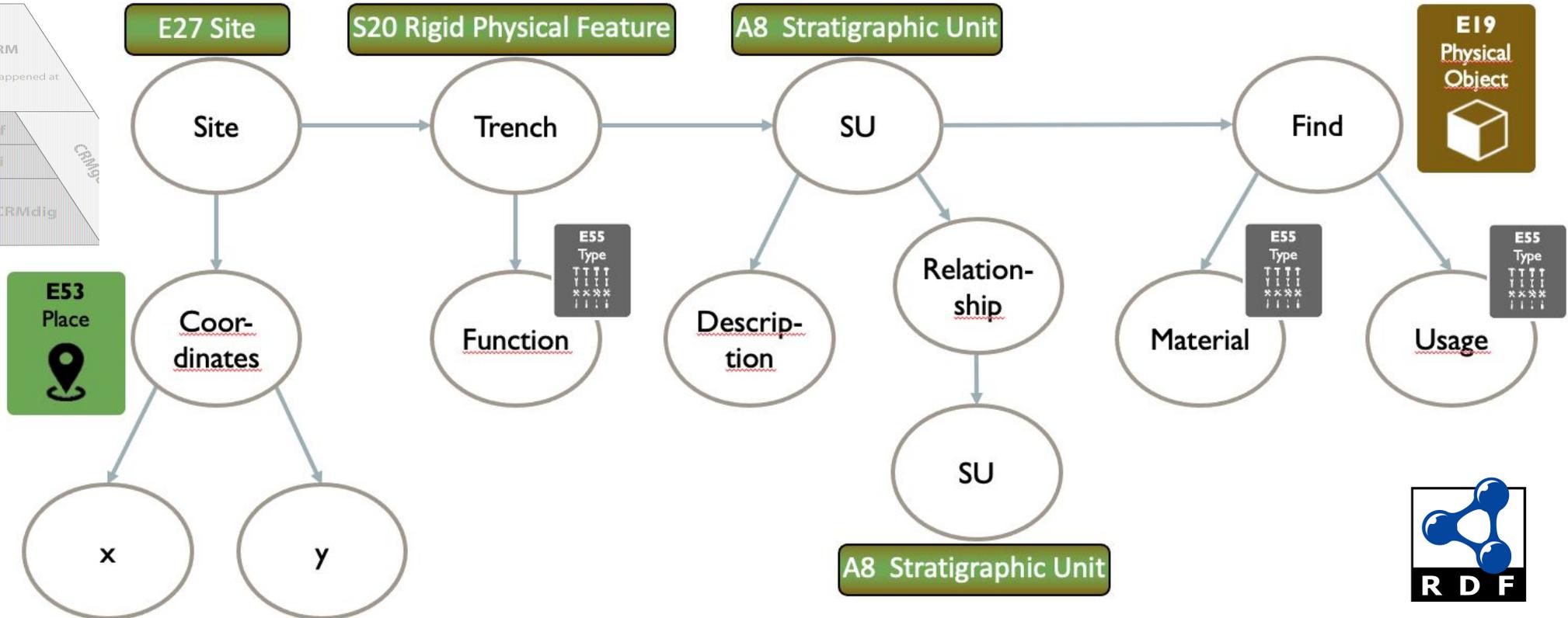
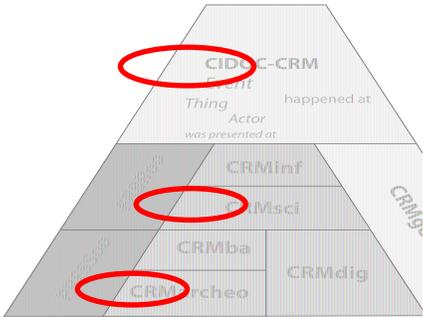
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1	1		3b	KNOCHEN GRZ 1	LIEGEN ZUMAST AUF GLOCK	
2	1		3b	HOLZKOHLE	DENDRO S!	
3	1		3b	HOLZKOHLE	DENDRO	
4	1		3b	HOLZKOHLE		
5	1		4			
6	1		4	KERAMIK	BESONNEN KERAMIK KLEINER ANF. GDR	
7	1		4	KERAMIK + WÄRCHEN		
8	1		3b	HOLZKOHLE	DENDRO	
9	1		3a	Div. (KNOCHEN, ...)		
10	1		5	Div. (KNOCHEN, ...)		
11	1		4	KNOCHEN		
12	1		4	KERAMIK		
13	1		4	KERAMIK		
14	1		3b	FEUER SETZ PLATAN	TEIL VERUNTERT	
15	1		3a	SCHLÄGEL DR.		
16	1		3b	HOLZKOHLE	DENDRO	
17	1		4	KERAMIK		
18	1		4	KERAMIK		
19	2		6=3a	KNOCHEN, KERAMIK, ERZPROBEN		1.6.
20	2		6=3a	HOLZKOHLE	DENDRO	1.6.
21	2		6=3a	SCHLÄGEL DR. POCHSTEIN 2		1.6.
22	2		3b	HOLZKOHLE 1SK.	DENDRO	1.6.
23	2		3b	HOLZKOHLE	DENDRO	1.6.
24	2		3b	HOLZKOHLE 1SK	DENDRO	2.6.

H	I	J	K	L	Q
massnahmen_id	fund	E19_parent_id	S20_id	Fundstelle (E41_S20)	E19_p3
87002.16.01	11		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-1	
87002.16.01	12		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-1	
87002.16.01	14		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Teils versintert	
87002.16.01	15		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-1	
87002.16.01	16		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Dendro	
87002.16.01	17		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-1	
87002.16.01	18		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-1	
87002.16.01	19		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-2	
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87002.16.01	19		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-2	
87002.16.01	20		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Dendro	
87002.16.01	21		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-2	
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87002.16.01	26		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Grube_Schnitt-2	
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87002.16.01	32		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Aus Bereich zwischen Schn. 1 + 2	
87002.16.01	33		Grosskogel-Bauernzeche_Obere-Grube_2	Grosskogel-Bauernzeche_Obere-Aus Bereich zwischen Schn. 1 + 2	
87002.16.01	34		Grosskogel-Bauernzeche_Obere-Grube_1	Grosskogel-Bauernzeche_Obere-Zwischen Bereich von Schnitt 1+2	

# EXCAVATION MODELLING

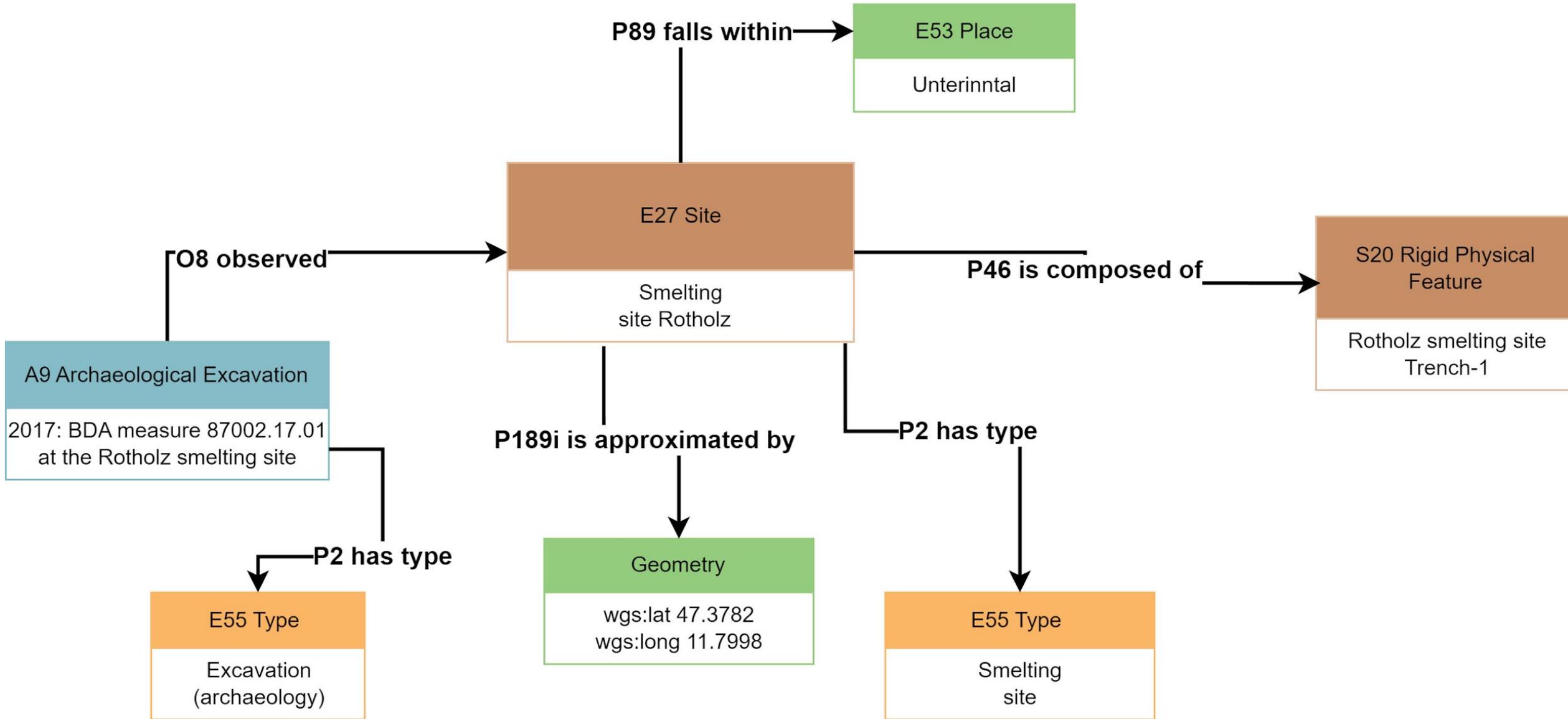


CIDOC-CRM family of I

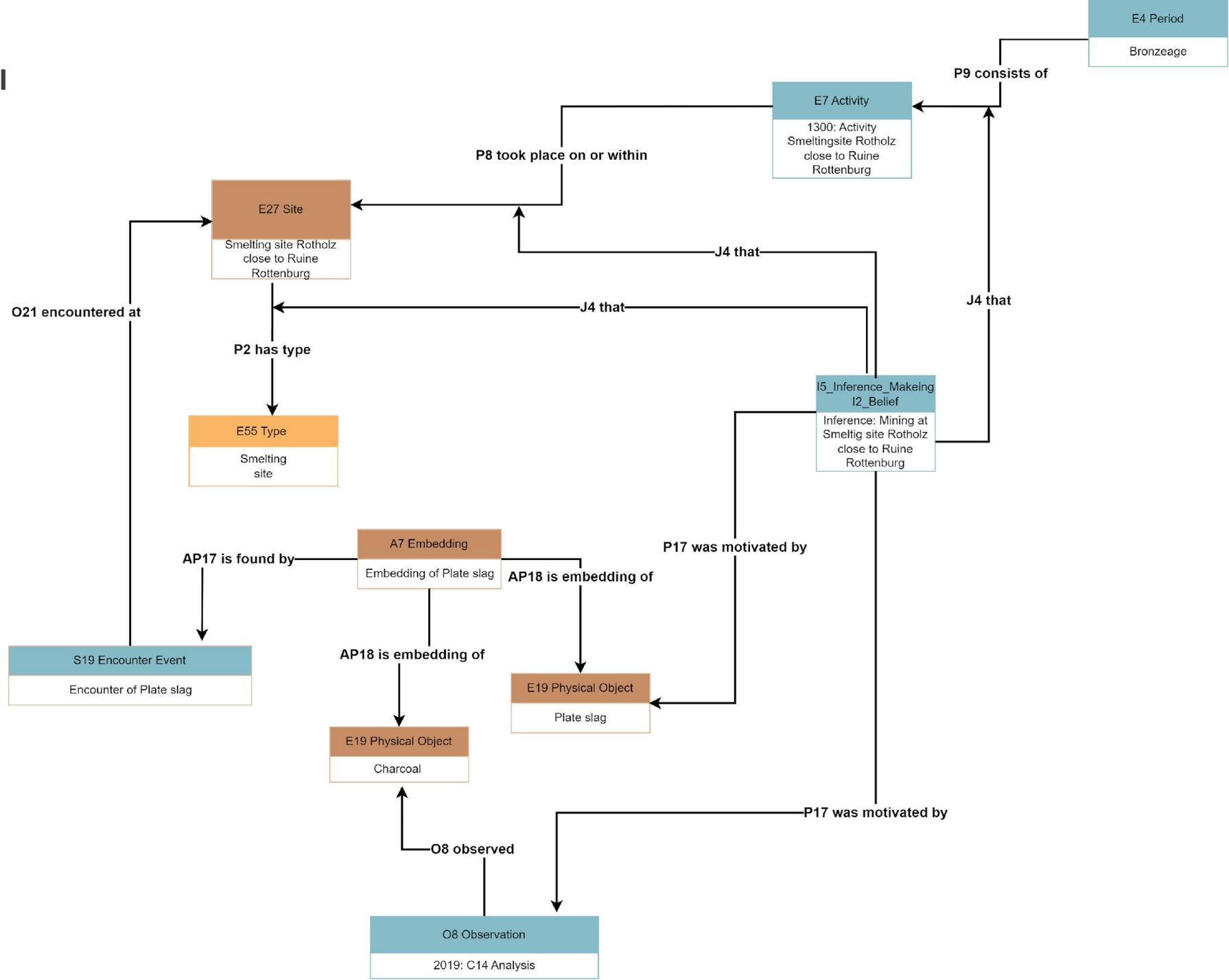


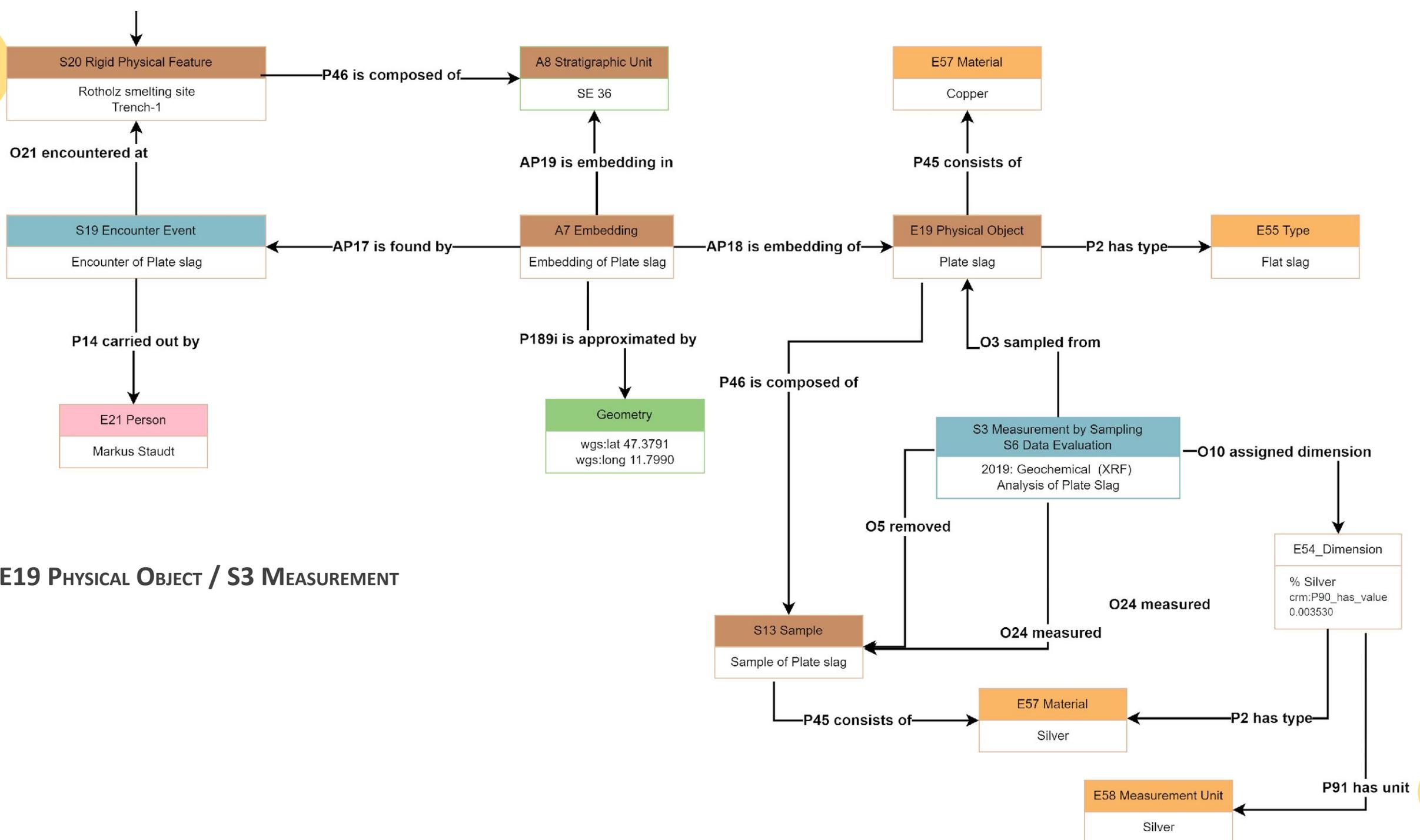
- At an archaeological Site at location xy: E27->P189 is approximated by ->E53 Place (Geometry)
  - In trench 2 (test trench): E27(Site) -> P46 is composed of-> S20 (Trench)
    - S20 (Trench) contains layer SU 4 (an ash-layer): S20 (Trench) -> P46 is composed of -> A8 Stratigraphic Unit
    - An Object with Find-No. 8 was found in SU4: E19 Physical Object -> AP21 is contained in -> A8 Stratigraphic Unit

# E27 SITE / S20 RIGID PHYSICAL FEATURE / E53 PLACE



# E7 ACTIVITY / I5 INFERENCE / I





## E19 PHYSICAL OBJECT / S3 MEASUREMENT

# THESAURUS IN SKOS WITH ALIGNMENT TO DARIAH BBT, GETTY AAT AND GEOLOGICAL SURVEY AUSTRIA

## E27 Site/ S20 Rigid Physical Feature

### Mining Structures

- Extraction
  - Adit
  - Underground mine
  - Open cast mine
- Beneficiation site
- Smelting site
  - Furnace
  - Roasting bed

### Objects

- Slag cake

## S4 Observation

### Dating

- 14C
- Dendrochronology
- Typology

### Field work

- Field survey
- Excavation

### Geochemical Analysis

## 15 Inference / 12 Belief

### Period

- Bronze Age
  - Early
  - Middle
  - Late
- Iron Age
  - Hallstatt
  - La Tene

### Mining Activities

- Extraction
- Beneficiation
- Smelting
  - Melting
  - Slag processing
  - Roasting

▼ Central Topic	▼ material things@bbt:000004 aat:300311889
▼ activities@bbt:000001 aat:300404112	▶ mobile objects@bbt:000017 himat:175860 aat:300310093
▶ disciplines@bbt:000010 himat:175420 aat:300054134	▶ built environment@bbt:000018 aat:300254226
▶ human interactions@bbt:000011 himat:238107	▼ physical features@bbt:000019 himat:175592
intentional destructions@bbt:000012 aat:300053085	▶ Vegetation@himat:175644 aat:300008932
▶ functions@bbt:000013	▶ Geologie@himat:175593
▶ other activities@bbt:000014	▶ Hydrologie@himat:175611 aat:300387652
▶ natural processes@bbt:000002 himat:175753	▼ Hergestelltes Merkmal (E25)@himat:238106 aat:300224592
▶ materials@bbt:000003 himat:175511	Alm@himat:175691 aat:300008635
▼ material things@bbt:000004 aat:300311889	Deponierung@himat:175727 aat:300195474
▶ mobile objects@bbt:000017 himat:175860 aat:300310093	Gewässerfund@himat:175728
▶ built environment@bbt:000018 aat:300254226	Passfund@himat:175729
mat:175592	▶ Bestattungsplatz@himat:175730 aat:300387004
ts@bbt:000020	▶ Religion/Sakrales@himat:175746 aat:300412063
:175475 aat:300264088	▼ Bergbau Merkmal@himat:238107
5490 aat:300020541 po:p0qhb66wrng	Schmiede@himat:175675
300020756 po:p0qhb66433w	▶ Verhüttungsplatz@himat:240207 hir
▶ Neuzeit@himat:175496 po:p0qhb668mm5	Aufbereitungsplatz@himat:240241
▶ Prähistorisch@himat:240049 ORD_period:38 aat:300019257	▶ Abbau Merkmal@himat:240228 aat:.
Archaik@himat:240033 aat:300020086	▶ Ausgrabungsplatz@himat:240062 aat:300266151
aat:300391250	
5419	
at:175981 aat:300025948	



# RDF Creation

## 5.1. Data Entry in Spreadsheet (Excel)

	A	B	C	D	E	F	G	H	I
1	S20_id	E18_class	S20_parent_id_p46	E41_S20	ing_e4	E41_S20_en	E42_S2G55	E42_S2	S4_id
2	p:Rotholz_Verhuettun	crm:E27_Site		Verhüttungsplatz in der N de		Smelting site Rotholz close to	Ruine Rottenb		p:87002.15.01 p:87002.16.01
3	p:Rotholz_Verhuettun	crmsci:S20_Rigid	p:Rotholz_Verhuettu	Rotholz Verhuettungsplat	de	Rotholz smelting site Trench-1			p:87002.15.01 p:87002.16.01
4	p:Rotholz_Verhuettun	crmsci:S20_Rigid	p:Rotholz_Verhuettu	Rotholz Verhuettungsplat	de	Rotholz smelting site Trench-2			p:87002.15.01 p:87002.16.01
5	p:Rotholz_Verhuettun	crmsci:S20_Rigid	p:Rotholz_Verhuettu	Rotholz Verhuettungsplat	de	Rotholz smelting site Trench-3			p:87002.17.01

## 5.3-4. Identifier creation / Joins in Database (Postgres)

## 5.5-6. Put Conceptual Mapping to RDF Modelling (Ontotext-Refine)

## 5.7 SPARQL in Triple Store (GraphDB) to insert in named graph and create RDFstar

```

SELECT art_id, title, authors, year, vol_nr, art_nr_in_volume,
FROM public.av_toc_gt_lv;
    
```

art_id	title	authors
1	Erste Besteigung des Grossen Geiger.	Issler, Richard
2	Bergsteigen in den östlichen Zillertaler Al...	Höfner, Horst
3	Skitouren in den Osttaler Alpen: 1948 bis ...	Weiss, Rudolf
4	Karwendel - Abenteuer für Generationen. ...	Wagner, Helmut

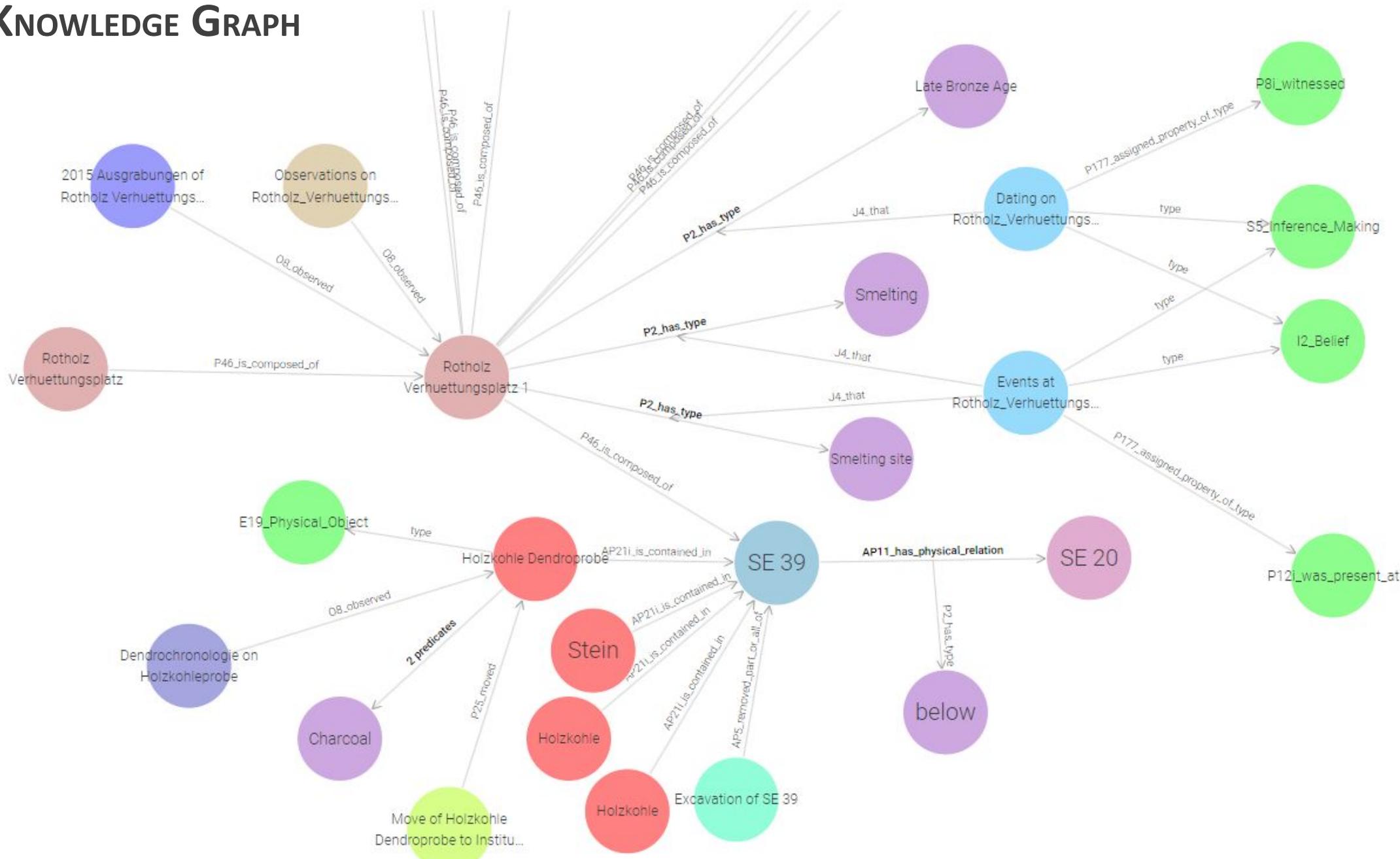
id_of..._uri	class..._uri	domain_label	ps_has_note	property_uri	id_of..._uri	class..._uri	range_label	dot_one..._uri	dot..._uri	id..._uri
http://id3k.ac.at/080/S20/Rotholz_Verhuettungsplat	PS	PS_has_note	PS_has_note	http://www.cidoc-crm.org/cidoc-crm/P3_has_note	http://id3k.ac.at/080/S20/Rotholz_Verhuettungsplat	PS	PS_has_note	http://www.cidoc-crm.org/cidoc-crm/P3_has_note	http://id3k.ac.at/080/S20/Rotholz_Verhuettungsplat	PS

```

INSERT { GRAPH ?s4 { # Insert "INSERT { GRAPH ?s4" for named graph
?s1 a ?t_s1 ;
rdfs:label ?o_label ;
crm:P3_has_note ?o_P3_has_note .
?s2 a ?t_s2 ;
rdfs:label ?o_label_2 .
?s3 ?p_property_uri ?o_property_uri .
<<?s3 ?p_property_uri ?o_property_uri>> ?p_dot_one_uri ?o_dot_one_uri . # comment this line out
# ?s4 ?p_dot_one_uri ?o_dot_one_uri . # comment this line out
11 UNDEF ; # insert ?s4 to place named graph construct
    
```

Added 43 statements. Update took 0.3s, yesterday at 12:53.

# KNOWLEDGE GRAPH



# Implementation Design

## Resource Discovery Application

## Graph Viewing-Editing Interface Application

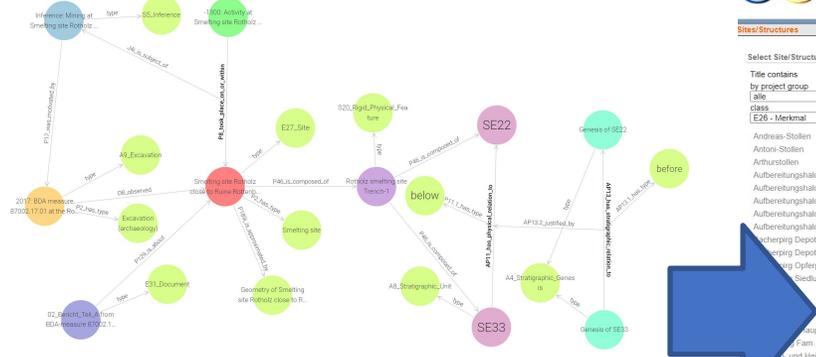
mapunto - maps & points

Public Collections | Public Collections Detail

Prehistoric Mining

Data from the UIBK Inf Int Project

Info	Name	Description	Image	Link	City	State	Country
	Mining activities at Brunalm (Mining area Brunalm)	Mining area Brunalm investigated by Roman Lamprecht		<a href="#">Link</a>	Kirchberg in Tirol	Tirol	Austria
	Mining activities at Kraftalm (Mining area Kraftalm)	Prehistoric mining activities at Kraftalm from 1500 to 1800		<a href="#">Link</a>	Itter	Tirol	Austria



## Master Data in Knowledge Graph (RDF)



[https://g9590262e493892-qnuste739ls5i4nv.adb.eu-frankfurt-1.oraclecloudapps.com/ords/r/gain/mapuntodev/collection?p311\\_list\\_map\\_view=LIST&session=116454902847459](https://g9590262e493892-qnuste739ls5i4nv.adb.eu-frankfurt-1.oraclecloudapps.com/ords/r/gain/mapuntodev/collection?p311_list_map_view=LIST&session=116454902847459)

## Files in File Storage/Picture Storage (SW: e.g. Google Drive)

zenodo

Dieser PC > gerald.hiebel@uibk.ac.at - Go... (G) > Geteilte Ablagen > Infint\_shared > Brixental > zenodo >

Name	Änderungsdatum	Typ
82005.23.01_Brixental	15.03.2024 18:15	Dateiordner
83007.23.01_Grattenbergl	15.03.2024 18:14	Dateiordner
Brixental.gsheets	26.03.2024 07:47	Google Sheets
desktop.ini	15.04.2024 08:21	Konfigurationsein

## WebGIS for complex Geovisualisation, spatial analysis

Layer

- plot\_material
- rockschle
- E22
- Knochen
- Metal/Legierung
- Gestein
- Eisen
- Gesler
- Sediment
- Holz
- Keramik
- Leinwand
- Schnecken
- Keramik
- Porzellan
- Schokolade
- Mixtal
- Steine
- Gies
- ESRI Type

Erzabbereitungsplatz-Weisser-Schrofen

Rohtolz\_Verhüttungsplatz\_Ruine-Rottenburg

Blutskopf-Fregentfeld

Blutskopf-Schoenbergbau

Erzabbereitungsplatz-Weisser-Schrofen

Rohtolz\_Verhüttungsplatz\_Ruine-Rottenburg

Blutskopf-Fregentfeld

Blutskopf-Schoenbergbau

Seite 20

Thesaurus | Sites/Structures | Objects | Historic Events | Resources | Observations | Actors | Site - Tree View

Select Site/Structure

Site/Structure

Titel: Hergestelltes Merkmal (E25)

Titel: Bergbauverl. Jordanwiese

Titel EN: Mining area Jordanwiese

URI: https://www.uibk.ac.at/infint/S20/IT\_Jordanwiese

Latitude: 47.455078

Longitude: 12.206251

GIS Url: https://www.openstreetmap.org/?mats=47.455078&lon=12.206251#map=16/47.455078/12.206251&layers=C

Position Lat: 47.455078 - Long: 12.206251

Image Url: https://drive.google.com/file/d/1UDCjFyqONoSeba8fEKes\_LEOimNH8m9mview

Info: id: 380833

HIMAT - Thesaurus

E1 CRM Entity

- Aktivitäten
- Material (E57)
  - Materielle Objekte
    - Gebaute Umgebung
    - Materieller Gegenstand (E19)
      - Materielles Merkmal (E26)
        - Geologie
        - Hergestelltes Merkmal (E25)
          - Hydrologie
          - Topographie
          - Vegetation
        - Menschliche Gruppe (E74)
        - Natürliche Prozesse
        - Thema/Begrifflicher Gegenstand (E28)
          - Zeitbenennung (E49)

assigned Types

Term	User
Man-Made Mining-Feature (E25) / Bergbau Merkmal	cs441084

assigned Sites/Structures

Eigenschaft	E26 Titel
consists of (P46)	Pinge WP98
consists of (P46)	Pinge WP89
consists of (P46)	Pinge WP90
consists of (P46)	Pinge WP91
consists of (P46)	Pinge WP97
consists of (P46)	Vent. Münd. WP93
consists of (P46)	Halde WP94
consists of (P46)	Halde WP95
consists of (P46)	Halde WP96
consists of (P46)	Halde WP92

assigned Objects

Gegenstand	Eigenschaft
Eisen Firr. 38	consists of (P46)

[https://orawww.uibk.ac.at/apex/uprod/f?p=20240817:20:::P20\\_ID:380833](https://orawww.uibk.ac.at/apex/uprod/f?p=20240817:20:::P20_ID:380833)

# Graph Viewing-Editing Interface Application



Seite 20



ites/Structures

Select Place

Title contains

by project group

class  of type

- Aufbereitungshalde Wirtsalm
- Aufbereitungshalde WP1
- Aufbereitungshalde WP2
- Aufbereitungshalde WP2
- Aufbereitungshalde WP2
- Aufbereitungshalde WP2
- Bergbaugesamt Fleidingalm
- Bergbaugesamt Hohe Salve
- Bergbaugesamt Brunnalm
- Bergbaugesamt Götschen
- Bergbaugesamt Jordanwiese
- Bergbaugesamt Kitzbüheler Alpen
- Bergbaugesamt Kraftalm
- Bergbaugesamt Niedingerwiese
- Bergbaugesamt Viehhofen
- Bergbaugesamt Viehhofen
- Bergbaugesamt Weikersbach
- Blutskopf-Pingenfeld
- Blutskopf-Pingenfeld\_Schnitt-1
- Blutskopf-Pingenfeld\_Schnitt-2

Weiter >

no data found

Place

Cidoc Klasse: Hergestelltes Merkmal (E25)  
 Titel: **Bergbaugesamt Brunnalm**  
 Titel EN: **Mining area Brunnalm**  
 URI: [https://www.uibk.ac.at/Infint/S20/BT\\_Brunnalm](https://www.uibk.ac.at/Infint/S20/BT_Brunnalm)  
 Latitude: 47,402663  
 Longitude: 12,344308  
 GII S URI: <https://www.openstreetmap.org/?mlat=47.402663&mlon=12.344308#map=16/47.402663/12.344308&layers=C>  
 Position: Lat: 47,402663 - Long: 12,344308  
 Image URI: <https://drive.google.com/file/d/1LFPnCW5M1CLIKM15olGh-zO2wD6XAmLw/preview>



Info:  
Id: 380832

Created by Lamprecht Roman on 2024-05-16  
 Modified by Hiebel Gerald on 2025-02-28

**E19  
Physical Object**

**E55  
Type**

assigned Types

Term	Cuser
Man-Made Mining-Feature (E25) / Bergbau Merkmal	c6441084
	1 - 1

assigned Places

Eigenschaft ↑	E26 Titel
consists of (P46)	Gebäude WP46
consists of (P46)	Pinge WP57
consists of (P46)	Pinge WP56
consists of (P46)	Halde WP82
consists of (P46)	Pinge WP51
consists of (P46)	Pinge WP58
consists of (P46)	Pinge WP60
consists of (P46)	Pinge WP63
consists of (P46)	Halde WP66
consists of (P46)	Pinge WP69
consists of (P46)	Pinge WP71
consists of (P46)	Pinge WP85
consists of (P46)	Halde WP72
consists of (P46)	Halde WP88
consists of (P46)	Pinge WP55
consists of (P46)	Halde WP59
consists of (P46)	Pinge WP62
consists of (P46)	Halde WP64
consists of (P46)	Halde WP67
consists of (P46)	Pinge WP70

1 - 20 Weiter >

**E27 Site**

**S20 Rigid Physical Feature**

**E19  
Physical Object**

assigned Objects

Gegenstand	Eigenschaft ↑
Keramik Fnr.37	consists of (P46)

[https://orawww.uibk.ac.at/apex/uprod/?p=20240817:20:::P20\\_ID:380833](https://orawww.uibk.ac.at/apex/uprod/?p=20240817:20:::P20_ID:380833)

# Resource Discovery Application (in test)

**E55**  
Type

↑↑↑↑↑  
↓ ↓ ↓ ↓ ↓  
✖ ✖ ✖ ✖ ✖

mapunto -

- Home
- Select Countries
- Select Categories
- Public Collections
- Getting Started

**Public Collections \ Public Collections Detail**

**Prehistoric Mining**

Data from the UIBK Inf Int Project

List

Info	Name	Description	Image	Link	City	State	Country	Start	End
	Mining activities at Brunnalm (Mining area Brunnalm)	Mining area Brunnalm investigated by Roman Lamprecht			Kirchberg in Tirol	Tirol	Austria	1200 BC	1000 BC
	Mining activities at Kraftalm (Mining area Kraftalm)	Prehistoric mining activities at Kraftalm from 1500 to 1800			Itter	Tirol	Austria	1200 BC	1000 BC
	Mining activities at Brunnalm (Fire setting WP105)	Late mediavel mining activities at Brunnalm from 1500 to 1800			Itter	Tirol	Austria	1500 BC	1800 AD
	Smelting site Rotholz close to Ruine Rottenburg	Bronze Age Smelting Site			-	Tirol	Austria	-	-

[https://g9590262e493892-qnuste739ls5i4nv.adb.eu-frankfurt-1.oraclecloudapps.com/ords/r/gain/mapuntodev/collection?p311\\_list\\_map\\_view=LIST&session=116454902847459](https://g9590262e493892-qnuste739ls5i4nv.adb.eu-frankfurt-1.oraclecloudapps.com/ords/r/gain/mapuntodev/collection?p311_list_map_view=LIST&session=116454902847459)

**E5**  
**Events**