



BrineRIS

Project Meeting 04.12.2024 Wraclaw

WP6: Interactive Platform Development

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EUROPEAN LITHIUM INSTITUTE

Connecting Europe with the World of Lithium



OUR INSTRUMENTS

Six active platforms along the lithium value chain chaired by our members BRGM, University of Lorraine, University of Bordeaux, CEA, Helmholtz Institute Freiberg and Fraunhofer ISC



Exploration and Mining



Processing and Recycling



Materials and Components



Design and Manufacturing



Circular Economy and Predictive Modelling



Business Models and Applications



WP06 Interactive Platform Development

- **Goals of WP:** Overarching interactive knowledge and data platform that incorporates all results developed in the project or creates links between them
- **Overview Tasks**
 - Discussion of the data with the providers and derivation of a suitable structure
 - Implementation of a shared web platform
 - Training of the partners how to use and contribute to the platform
- **Overview Deliverables, Outputs, Milestones**
 - Taskforce (O6.1, Done), Specification (O6.2, MS6.1, Done), Platform (O6.4, In Work), Lecture (O6.5, Done)
 - Handbook on Data Standards for the BrineRIS platform (O6.3, Done)
 - Documentation and User Guide (D6.1, In Work)

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WP06 Interactive Platform Development - Results

- Platform software framework configured and installed
- Already accessible under <https://brine-ris.eu>
- Hosts also general project information

BRINE RIS DATASPACE

Search BrineRIS Dataspace

BrineRIS Dataspace

[Main page](#) [Discussion](#) [History](#) [Create page](#) [Create subpage](#) [Refresh](#)

Main Page

BrineRIS Dataspace 4 Project

Semantic Dataplatform for *BrineRIS®* – Brines of RIS countries as a source of CRM and energy supply.

You are a project member but not yet have an account? Request one [here](#).

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WP06 Interactive Platform Development - Results

- General project information

The screenshot displays the BrineRIS Dataspace website. At the top, there is a search bar and the title 'BrineRIS Dataspace'. Below the title, there are navigation links for 'Main page', 'Discussion', and a star icon. A sidebar on the left contains navigation options like 'Main page', 'Recent changes', 'Random page', and 'Editor-Tutorial'. The main content area features a description of the platform as a semantic dataplatform and website for BrineRIS. Below this, there are four prominent green buttons with icons and text: 'The BrineRIS Project' (with a magnifying glass icon), 'Social Media' (with a play button icon), 'News And Events' (with a calendar icon), and 'Member Area' (with a padlock icon). Each button includes a 'LEARN MORE' link. At the bottom, there is a 'Partners' section with logos for Wroclaw University of Science and Technology, CSIC, GTK, and Technische Universität Bergakademie Freiberg.

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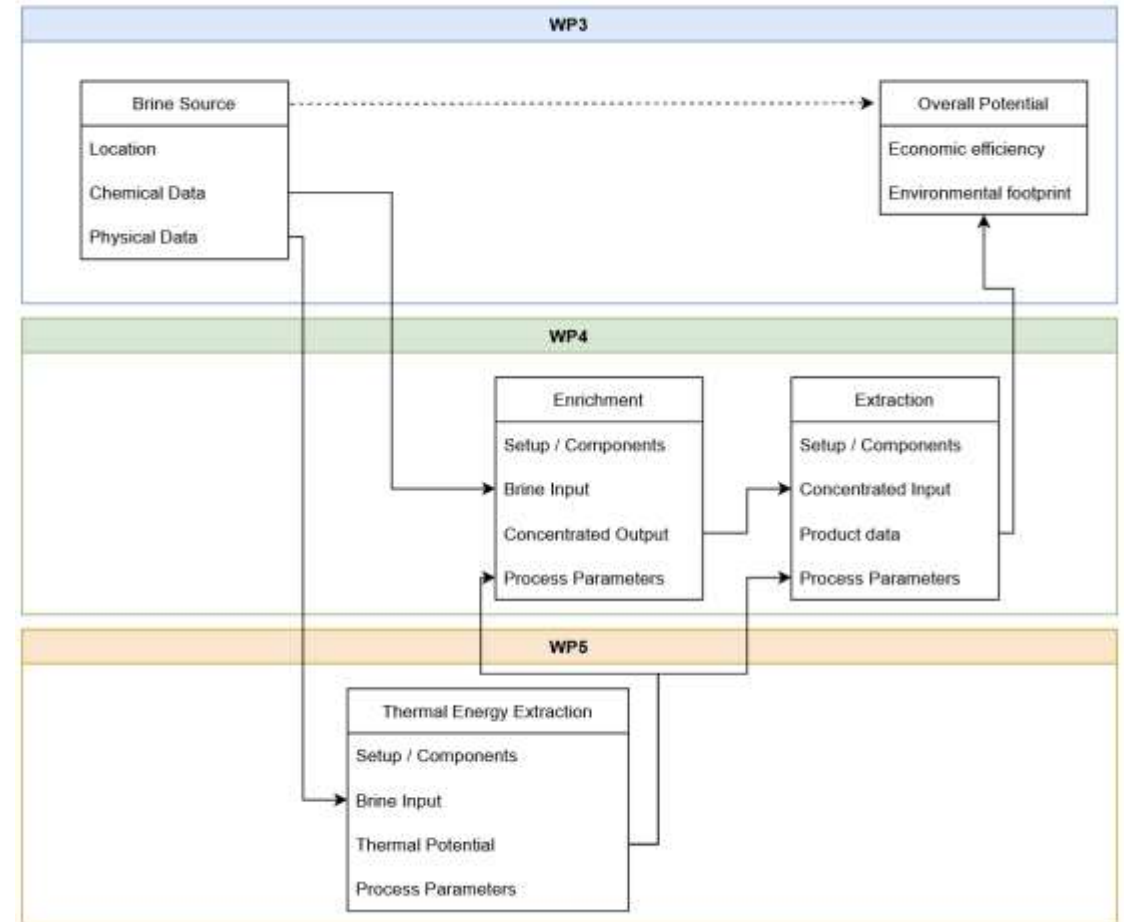
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WP06 Interactive Platform Development

– Cross WP tasks

- Create data structures
- Import & link existing data
- Build an interactive visualization



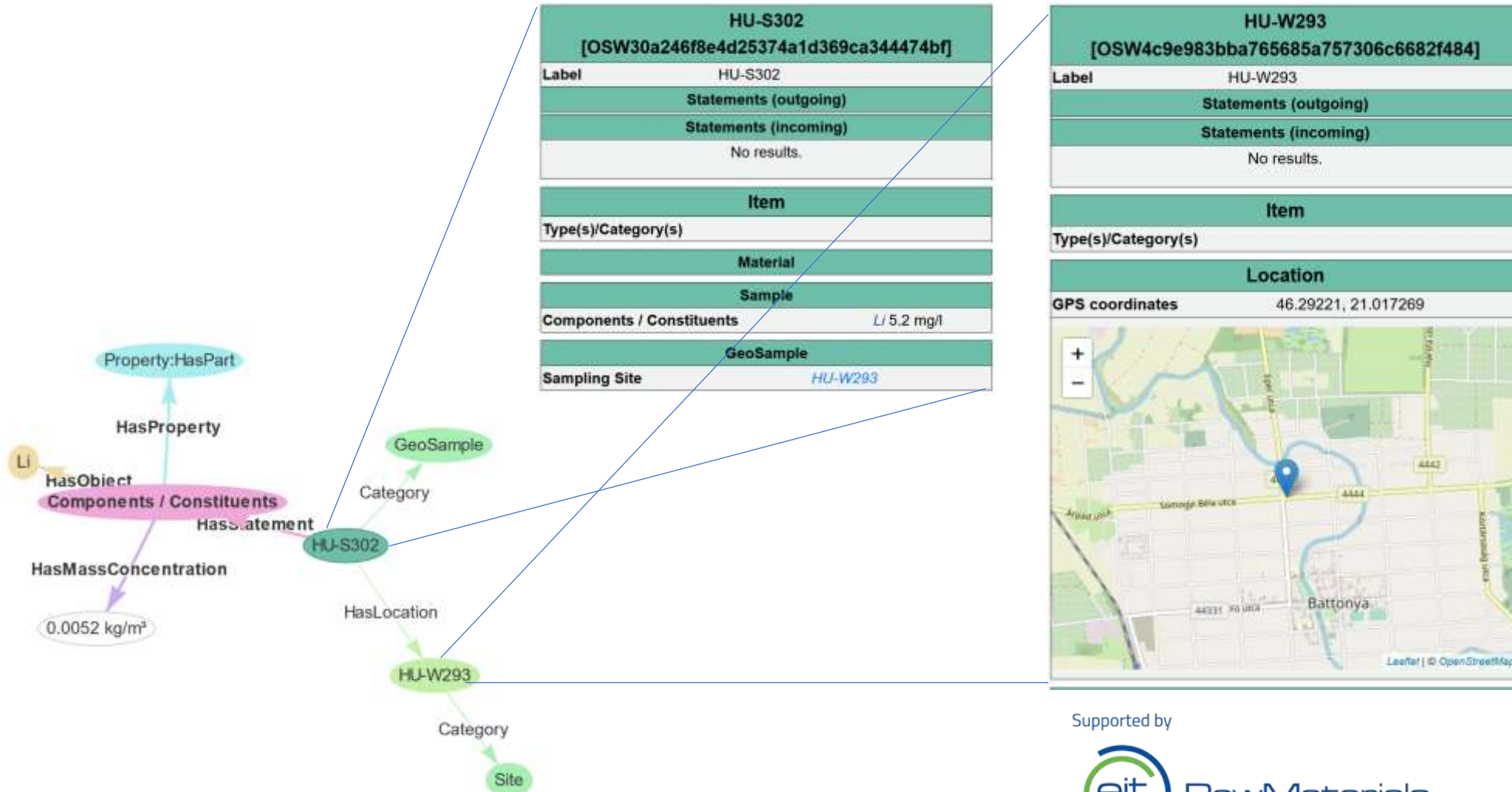
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Data Structure and Visualization




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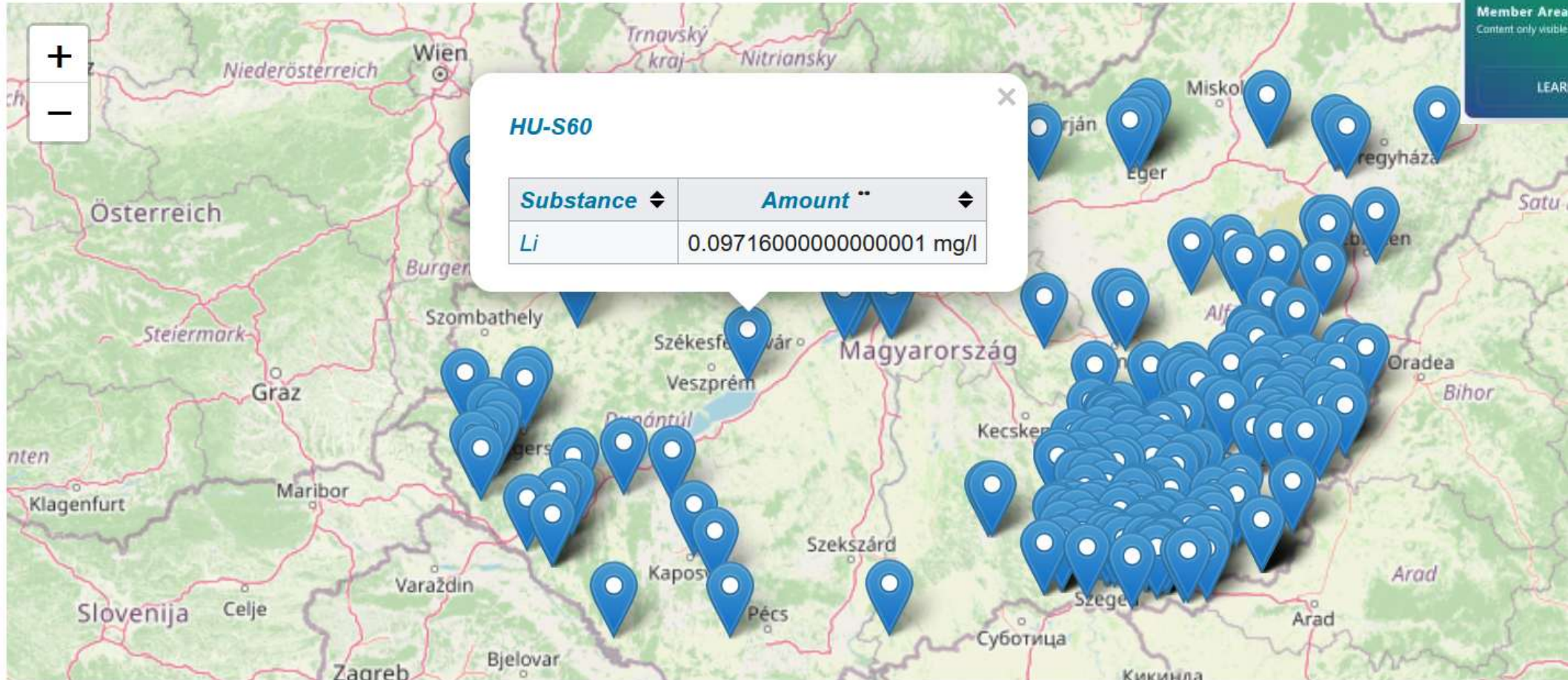


Data Structure and Visualization



Member Area
Content only visible for members

[LEARN MORE](#)



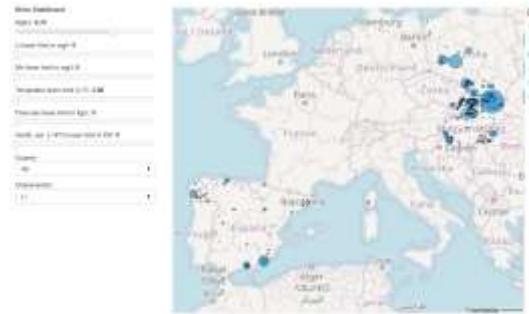
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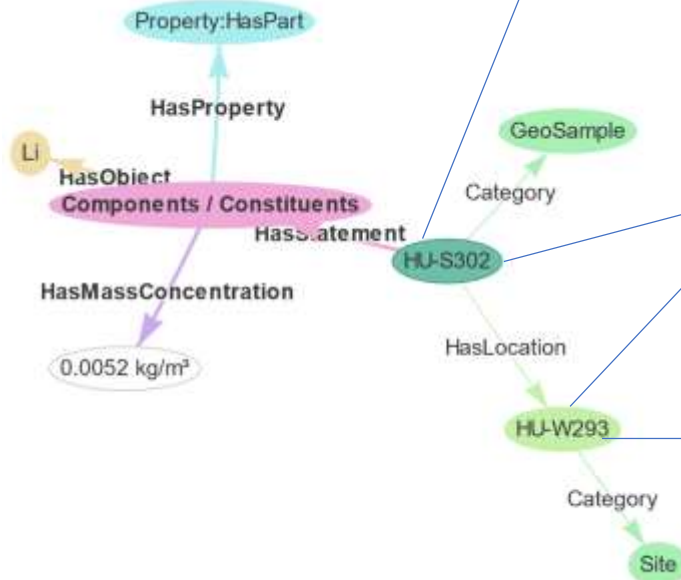


Data Structure and Visualization



PO-S1 [OSW02485d8024425cbea901147a71757876]	
Label	PO-S1
Statements (outgoing)	
Statements (incoming)	
No results.	
Item	
Type(s)/Category(s)	GeoSample
Material	
Sample	
Components / Constituents	Li <1 mg/l Mn 0.835 mg/l
GeoSample	
Sampling Site	PO-W1

PO-W1 [OSW1281107815e7545d959e8a2878471130]	
Label	PO-W1
Statements (outgoing)	
Statements (incoming)	
No results.	
Item	
Type(s)/Category(s)	Site
Location	
GPS coordinates	53.969777777778, 14.778666666667



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Brine Dashboard

Alpha: 0.70



Li lower limit in mg/l: 0



Mn lower limit in mg/l: 0



Temperatur lower limit in °C: 2.80



Flow rate lower limit in kg/s: 0



Geoth. pot. (->6°C) lower limit in kW: 0



Dataset

All

Country

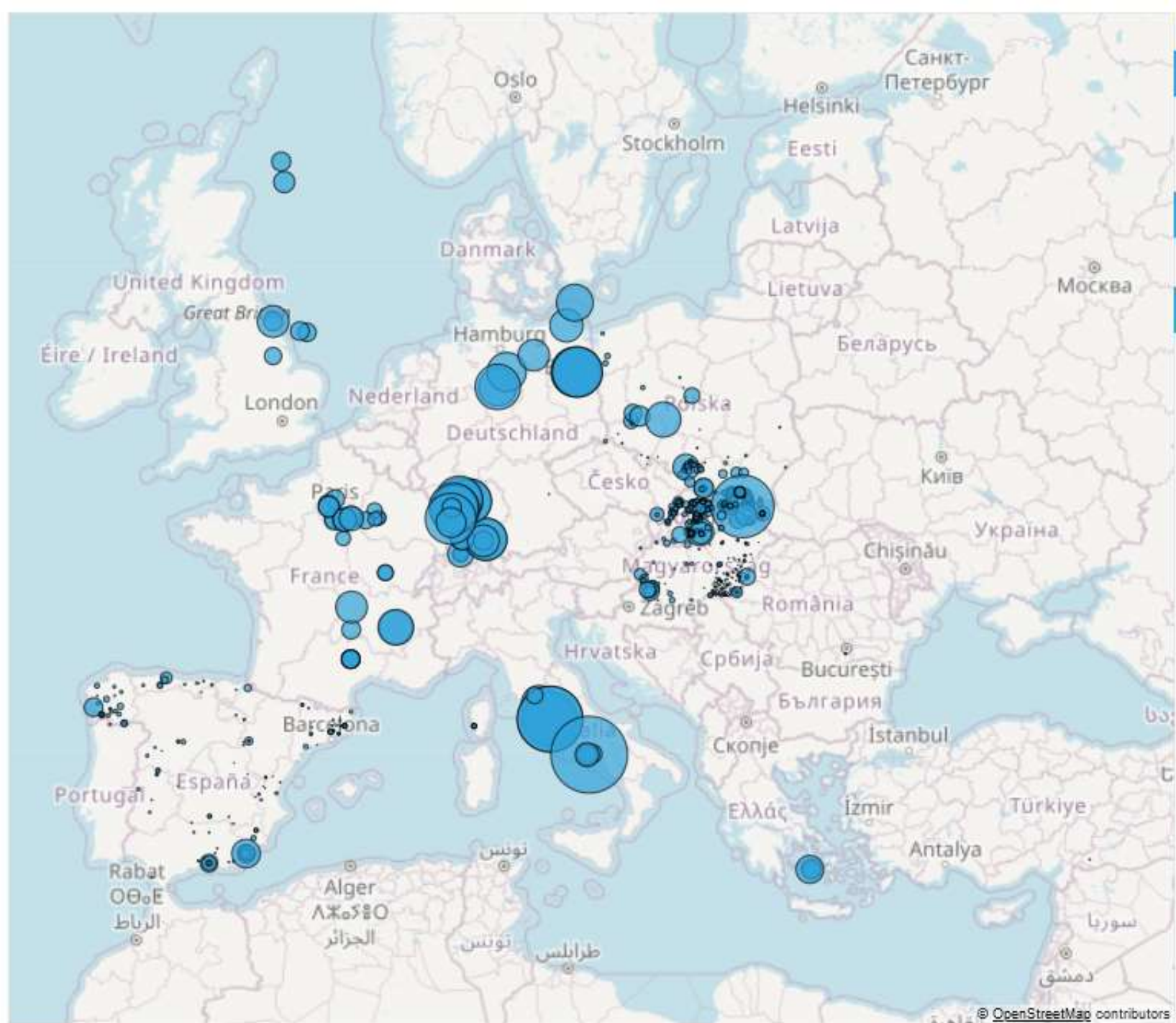
All

Characteristic

Li

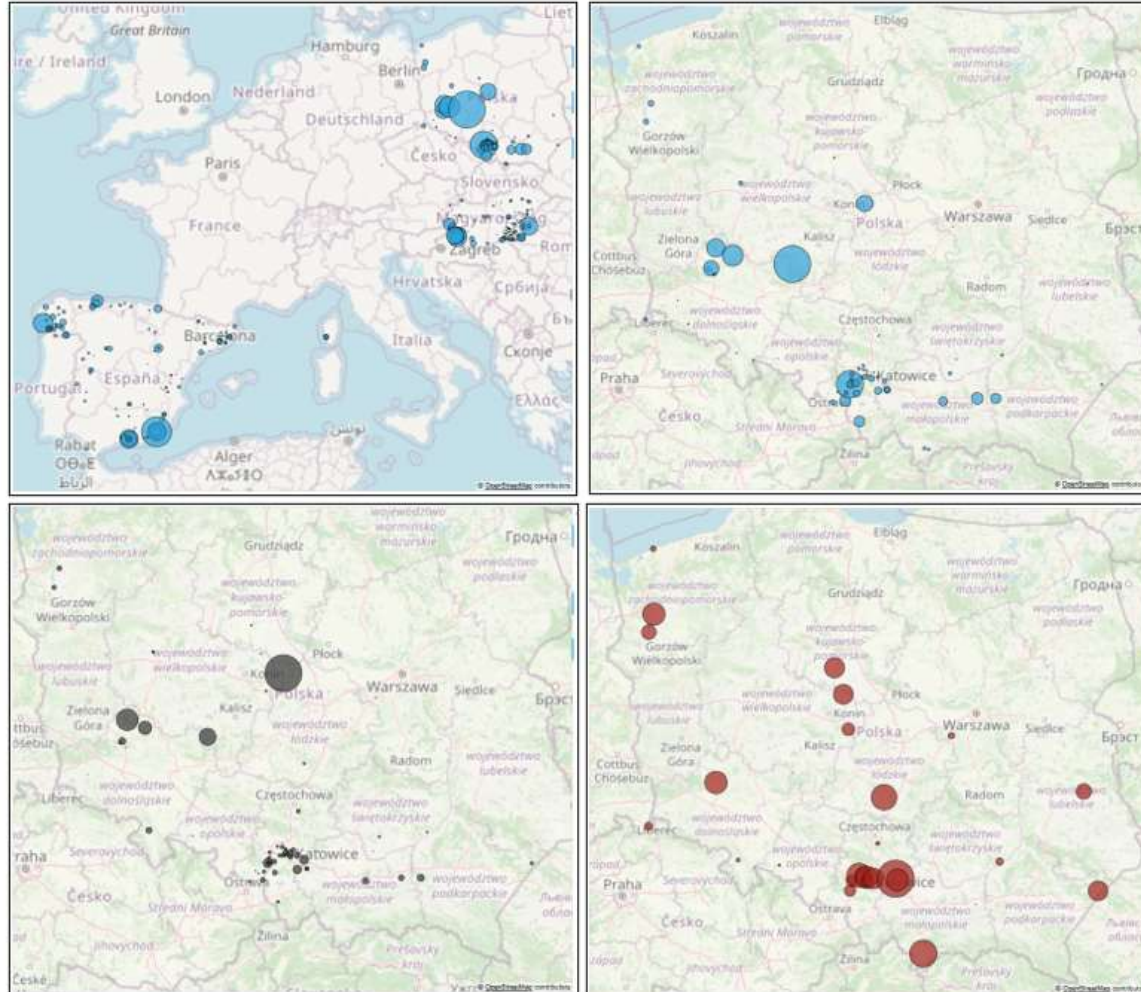
Background map

OSM





Data Structure and Visualization



- Different Characteristics, e.g. Lithium, Manganese, Geothermal Potential

Brine resources in Europe / RIS Countries. Top left: Overview map Europe, Lithium content. Top right: Detail map Poland: Lithium content. Bottom left. Detail map Poland: Manganese Content. Bottom right: Detail map Poland: Geothermal potential

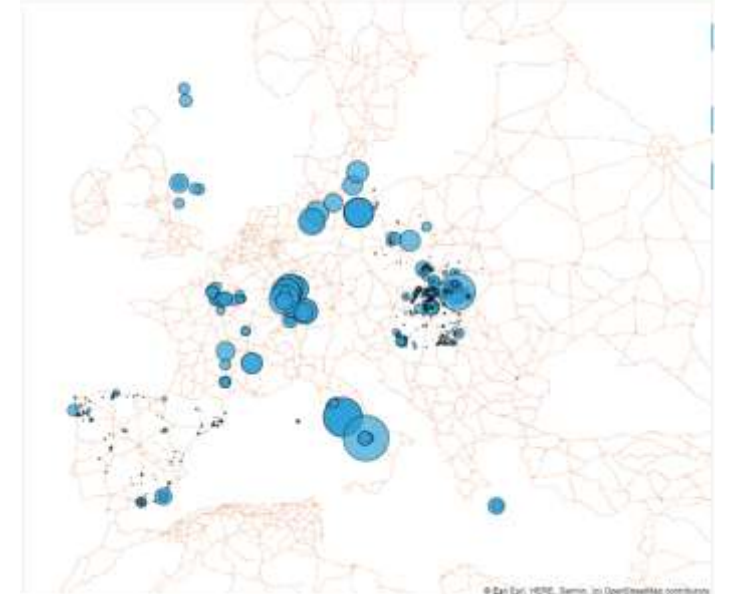
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Background Maps



- **Different Background Maps, e. g. Topographic, Imagery, Transportation – not yet Geologic**

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A complete Brine Atlas for Europe



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- **BrineRIS Project: ~2500 Samples from PO, HU, ES, SK(, PT, CZ, RO)**
- **EuGeLi Project: 208 Samples from UK, North Sea (NS), FR, DE, CH, GR(, TK)**

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Data Access

- **Internal (consortium): all data on map + raw data**
 - **Registered external users: Map with aggregated data, raw data only from own samples (future perspective)**
 - **Public: Map with aggregated data (concentrations and positions on map), no detailed information like GPS coords**
- => Create Map dashboard with 3 access levels / aggregations**
- => Add public map as image to paper**

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Data Access – Internal: All Data

Brine Dashboard

User role
internal

Alpha: 0.70

Li lower limit in mg/l: 0

Mn lower limit in mg/l: 0

Temperature lower limit in °C: 2.80

Flow rate lower limit in kg/s: 0

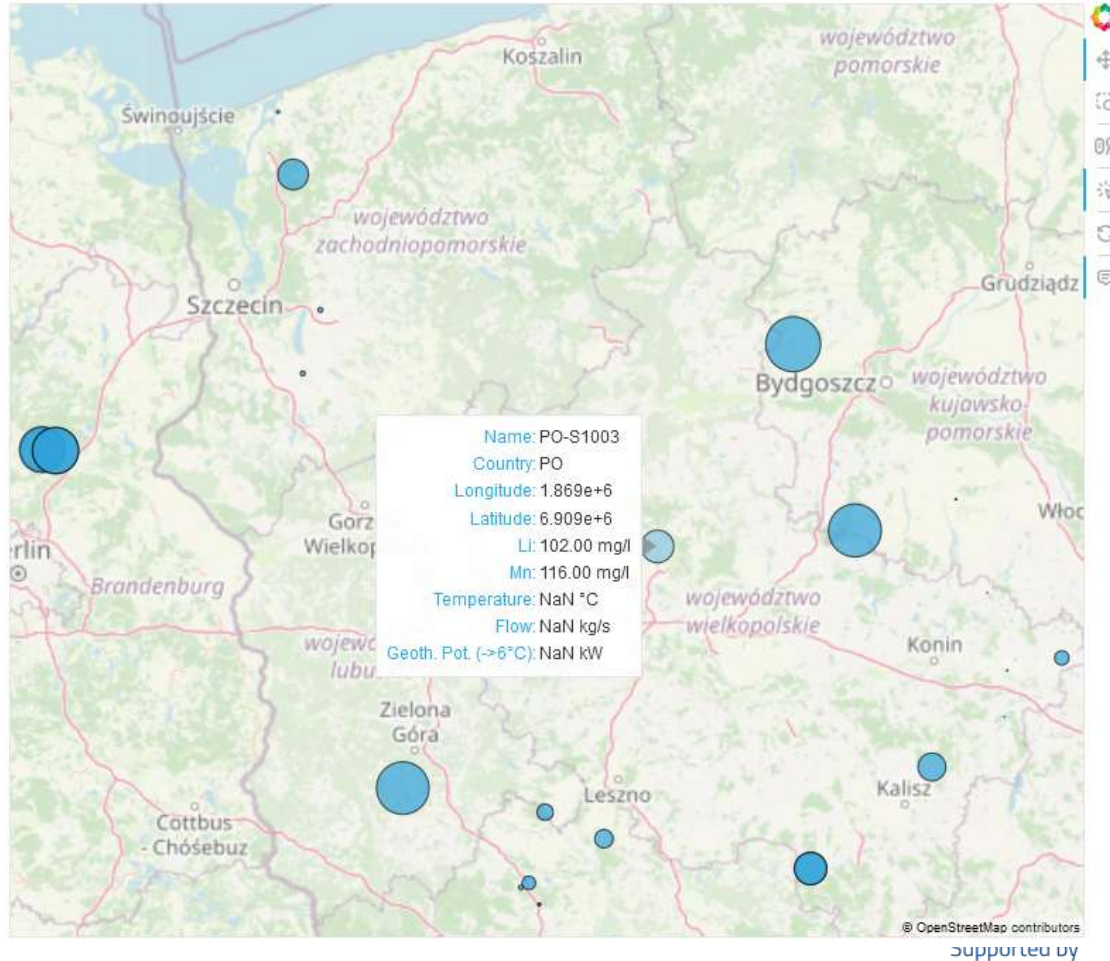
Geoth. pot. (->6°C) lower limit in kW: 0

Dataset
All

Country
All

Characteristic
Li

Background map
OSM



- Li: 1 - 3 mg/l
- Li: 3 - 11 mg/l
- Li: 11 - 40 mg/l
- Li: 40 - 139 mg/l
- Li: 139 - 479 mg/l



Data Access – External/Guest: Aggregated primary concentrations + Metadata

Brine Dashboard

User role:

external

Alpha: 0.70

Li lower limit in mg/l: 0

Mn lower limit in mg/l: 0

Temperature lower limit in °C: 2.80

Flow rate lower limit in kg/s: 0

Geoth. pot. (->6°C) lower limit in kW: 0

Dataset:

All

Country:

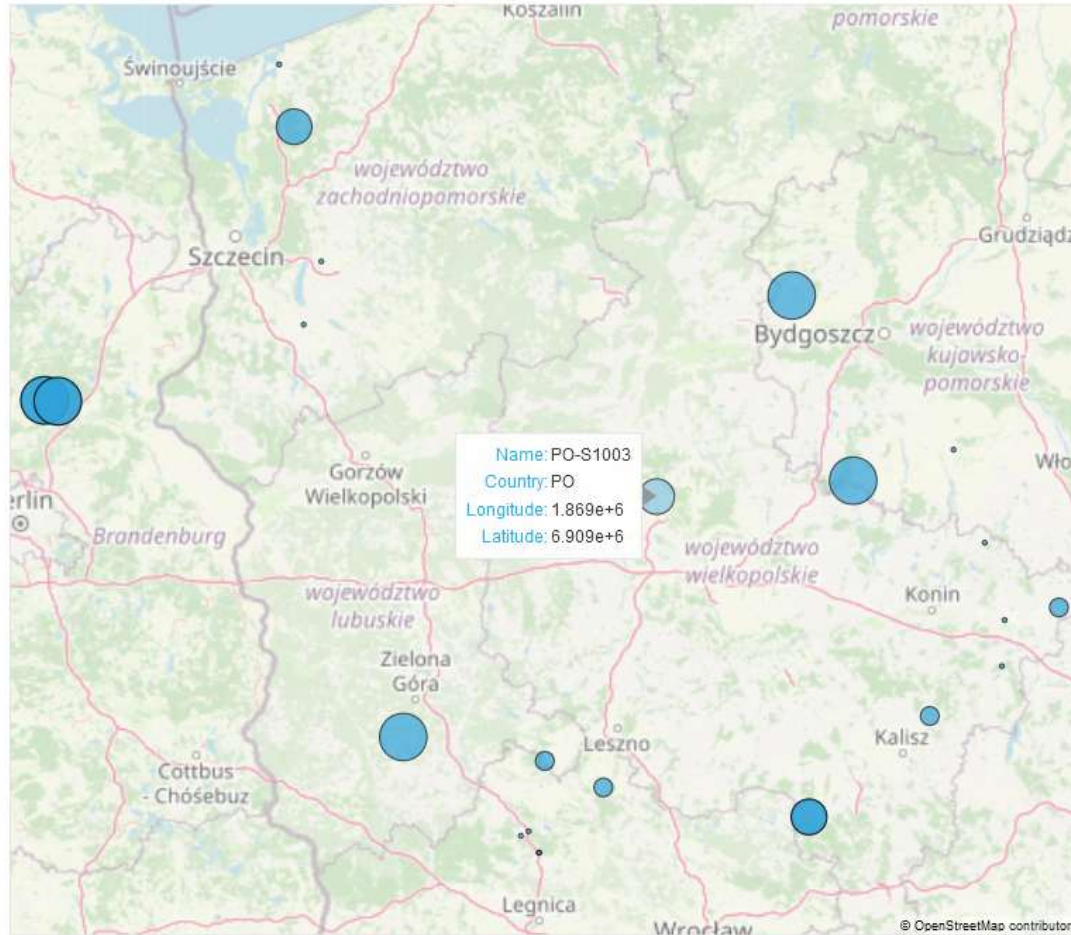
All

Characteristic:

Li

Background map:

OSM



- Li: 1 - 3 mg/l
- Li: 3 - 11 mg/l
- Li: 11 - 40 mg/l
- Li: 40 - 139 mg/l
- Li: 139 - 479 mg/l

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Data Access – External/Guest: Aggregated primary concentrations

Brine Dashboard

User role
public

Alpha: 0.70

Li lower limit in mg/l: 0

Mn lower limit in mg/l: 0

Temperature lower limit in °C: 2.80

Flow rate lower limit in kg/s: 0

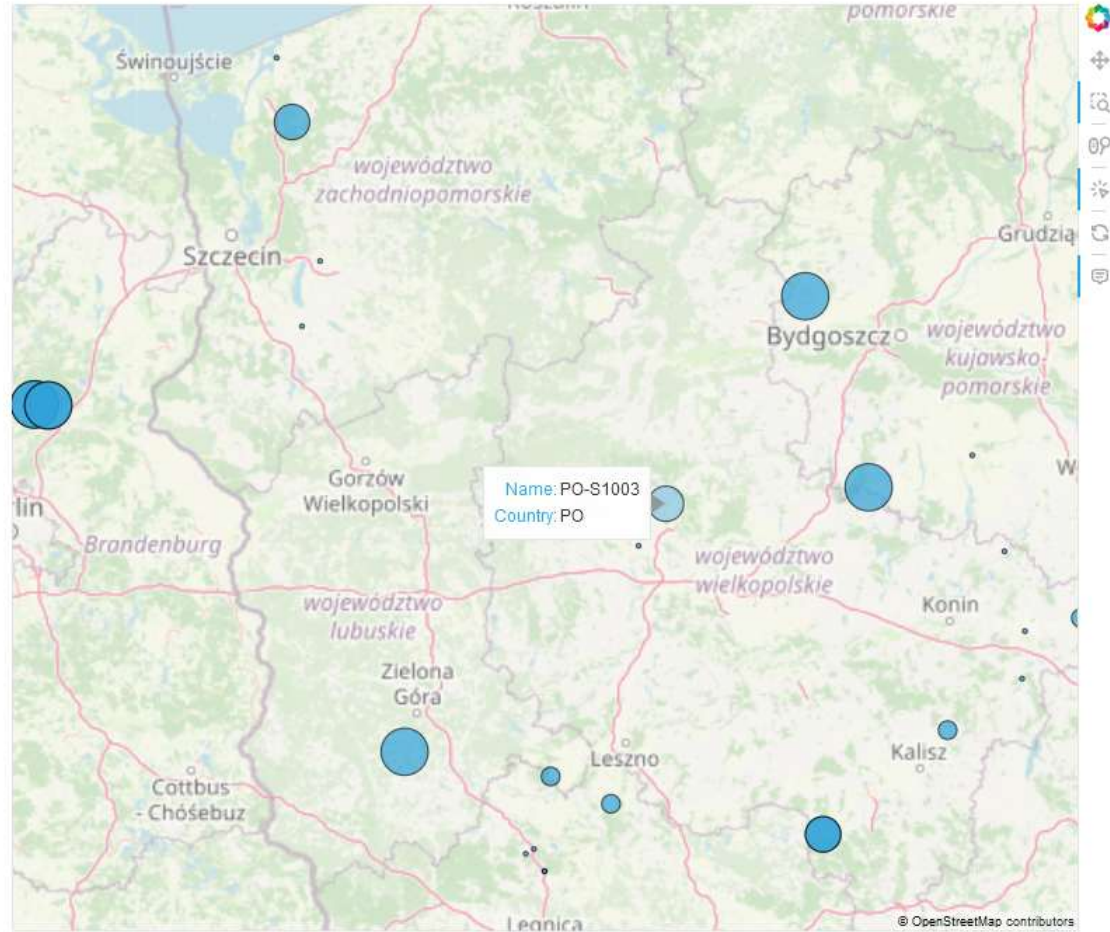
Geoth. pot. (->6°C) lower limit in kW: 0

Dataset
All

Country
All

Characteristic
Li

Background map
OSM



- Li: 1 - 3 mg/l
- Li: 3 - 11 mg/l
- Li: 11 - 40 mg/l
- Li: 40 - 139 mg/l
- Li: 139 - 479 mg/l

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Demo

Brine Dashboard

User role
internal

Alpha: 0.70

Li lower limit in mg/l: 0

Mn lower limit in mg/l: 0

Temperature lower limit in °C: 2.80

Flow rate lower limit in kg/s: 0

Geoth_pot. (->0°C) lower limit in kW: 0

Dataset
All

Country
All

Characteristic
Li

Background map
OSM



- Li: 1 - 3 mg/l
- Li: 3 - 11 mg/l
- Li: 11 - 40 mg/l
- Li: 40 - 139 mg/l
- Li: 139 - 479 mg/l

"Steen Stier"

[logout](#)

[Dashboard URL](#)

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Outlook

Add Data



Well

CREATE INSTANCE



Geo Sample

CREATE INSTANCE

Open Dashboard

User role:

Alpha:

Li lower limit in mg/l:

Mn lower limit in mg/l:

Temperature lower limit in °C:

Flow rate lower limit in kg/s:

GeSB: pH: Clower limit in wt %:

Dataset:

Country:

Characteristics:

- Li
- Mn
- Temperature
- Flow
- Geothermal Potential



- Li: 1 - 3 mg/l
- Li: 3 - 11 mg/l
- Li: 11 - 40 mg/l
- Li: 40 - 139 mg/l
- Li: 139 - 479 mg/l

"Clean Start"
[Source](#)

[Logout Presentation](#)

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THANKS FOR YOUR ATTENTION



WP06 Interactive Platform Development

– Data Taskforce / Workshop with WP3

- 14.9.22
- Current state of Geochemical data about Europe
 - Hungary: Detailed data already available
 - Poland (information is stored in Papers / PDFs), no access to Geological Survey yet
 - Spain: Databases-Access or Excel-Export from Geological Survey
 - Portugal: Map-based-Dataset available, but no raw dataset
 - Samples collected during the project: More detailed chemical analysis (see Field Guide)
- Identified critical properties
 - Location
 - Data-Quality, e.g. Grade A-C (defined by experts / data analysts)
 - Chemistry (=> WP4: Process requirements)
 - **Temperature**, Physical Volume flow! (=> WP5: Geothermal potential)

Stier, Simon

Daniel Marcin

Zuzana Kollová

Krzysztof Chudy (WUST)

Karolina Szostak

Viktor Mádai

Cyprian Long

Jan Maule

Magdalena Worsa-Kozak

Maria Jose Jurado

Klára Králková

Joanna Krupa-Kurzynowska

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WP06 Interactive Platform Development – Data Taskforce / Workshop with WP4

- 19.9.22
- Process related data (depends on available chemical data)
 - Enrichment
 - Brine-Composition (List of Components + Concentration)
 - Electrode setup
 - Potentials $U(t)$
 - Input and output Li-Concentration
 - Extraction / Electrolization
 - Membrane setup
 - Current
 - Time
 - CO_2 -Concentration
 - Temperature
 - Energy per Mass Li_2CO_3 [kWh/kg]
 - Purity [%]
 - Solvent extraction modelling
 - Solvent setup
 - Phase diagrams

Stier, Simon

Luiza Bonin

Petr Rambousek

Zuzana Kollová

Cyprian Long

Magdalena Worsa-Kozak

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WP06 Interactive Platform Development

– Data Taskforce / Workshop with WP5

- 20.9.22
- Process related data
 - depends on physical properties / volume flow of the brine source
 - depends on physical specifications of WP4
 - Chemical data nice-to-have for side effects on construction materials
 - Setup / process definition (e. g. heat pumps)
 - Thermal Potentials

Stier, Simon

Thomas Grab (TUBAF)

Timm Wunderlich (TUBAF)

Daniel Marcin

Jan Maule

Jan Buda (CGS)

Natália Bačová

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WP06 Interactive Platform Development - Results

- Improved layout to structure content of the platform
- Integration of social media content (twitter, linkedin, etc.)

LinkedIn

<https://www.linkedin.com/company/brine-ris/>

Brine RIS
3 members

Świadczenie biznesowe z EIT RawMaterials 2023!
#DigitalMining #Center Wrocław University of Science and Technology serdecznie zaprasza przedstawicieli sektora surowcowego, przemysłu wydobywczego pierwotnych oraz wtórnych, górnictwa i przetwórstwa kopalin, recyklingu i odzysku pierwiastków ze źródeł wtórnych i niekonwencjonalnych, dostarczających surowce z EIT Raw Materials pod hasłem „Kazem kształtujemy górnictwo i przetwórstwo przyszłości dla bezpieczeństwa surowcowego Europy”.

Więcej informacji:
<https://lnkd.in/g/1WPCs>

LPK do rejestracji:
<https://lnkd.in/g/58U1Tcr>

#scienceandtechnology #university #business #businessbreakfast

Twitter

Tweets from @EITRawMaterials

@EITRawMaterials | Dec 5
Save the Date for the EIT RawMaterials Summit 2023!
📅 15-17 May 2023
📍 The Egg, Brussels, Belgium
The EIT RawMaterials Summit is a flagship event for the raw materials industry, organised by EIT RawMaterials. Stay tuned for more details!

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