FRAME
FORECASTING AND ASSESSING EUROPE'S STRATEGIC RAW MATERIALS NEEDS

Lithium, Cobalt and graphite occurrences in Europe , Results from GeoEra FRAME wp5

WP5 leads

Håvard Gautneb (NGU), Eric Gloaguen (BRGM), Tuomo Törmänen (GTK)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731166

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Data

Data sources:

Project partners

MREG and Eurogeosurvey members.

University researchers and PhD's (ca 20% of total data)

Country	No of occurrences	Partner country	Contributor (data collected from)
Austria	298	x	
Belgium	8		x
Bosnia and Herzegovina	1		x
Czech republic	69	x	
Finland	164	x	
France	77	x	
Germany	36		x
Great Britain	11		x
Greece	6		x
Hungary	8	x	
Ireland	11	x	
Italy	28		x
Macedonia	1		x
Norway	222	x	
Poland	43	x	
Portugal	210	x	
Romania	29	x	
Serbia	8		x
Slovakia	13		x
Slovenia	3	x	
Spain	131	x	
Sweden	166	x	
Switzerland	3		x
Ukraine	64	x	
United Kingdom	19		x
Grand Total	1629		

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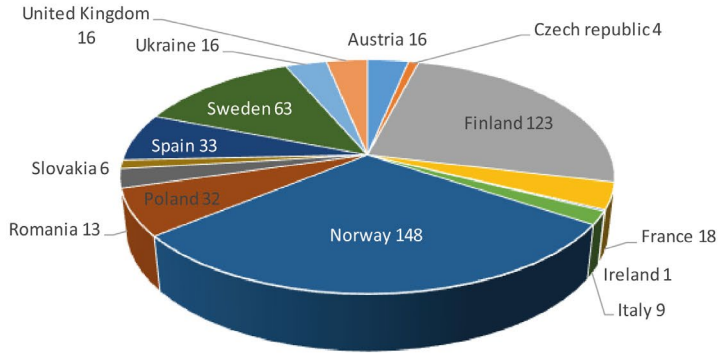
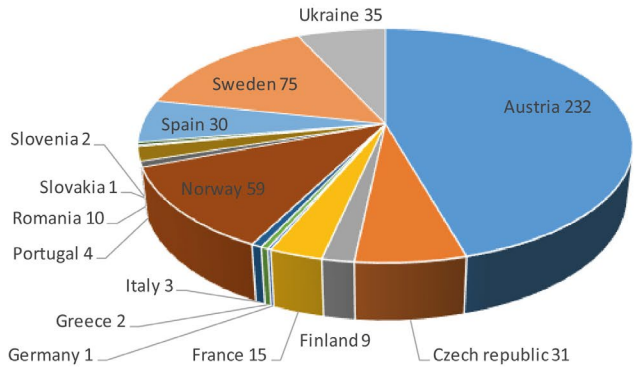
Data statistic, distribution of occurrences

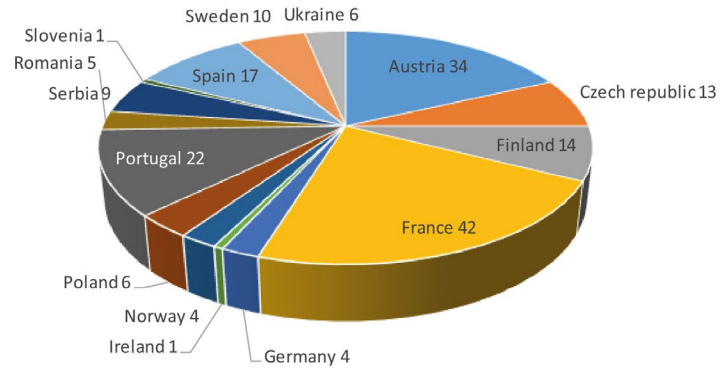
Cobalt



Graphite



Lithium



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Results

Maps over Li-Co and graphite occurrences in Europe

Details on:
Activity (active not active) / Genetic type /
Deposit type (occurrence, prospect or deposit)

Our data is available in excel and delivered to WP3 for their deliverables.

Results presented (will be presented) at the following conferences:

1. SGA 2019 (Glasgow)
2. Raw materials week 2019 (Brussesls)
3. PDAC 2020 (Toronto)
4. EGC 2020 (New Delhi)
5. EGU 2020 (Wien)

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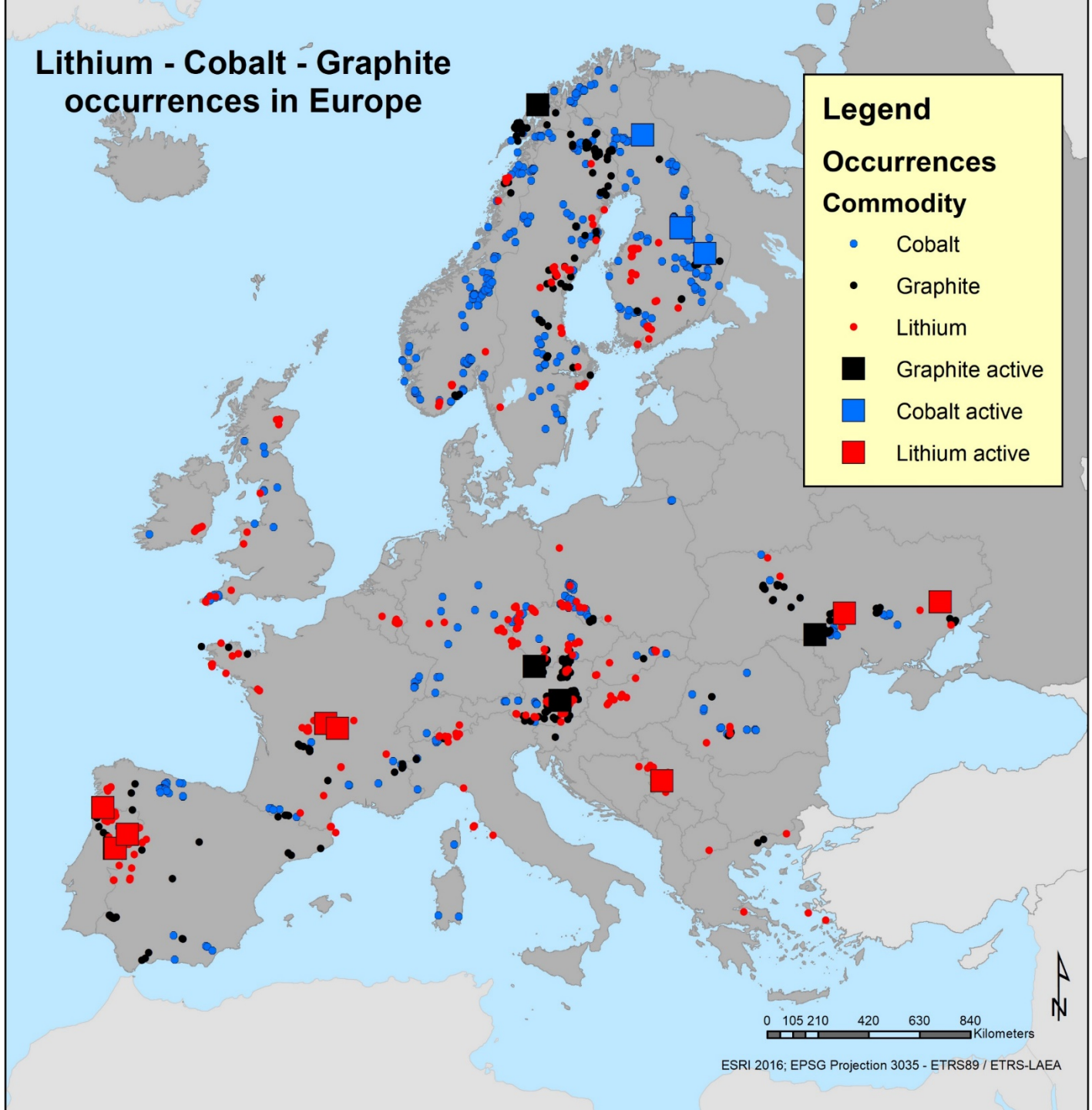

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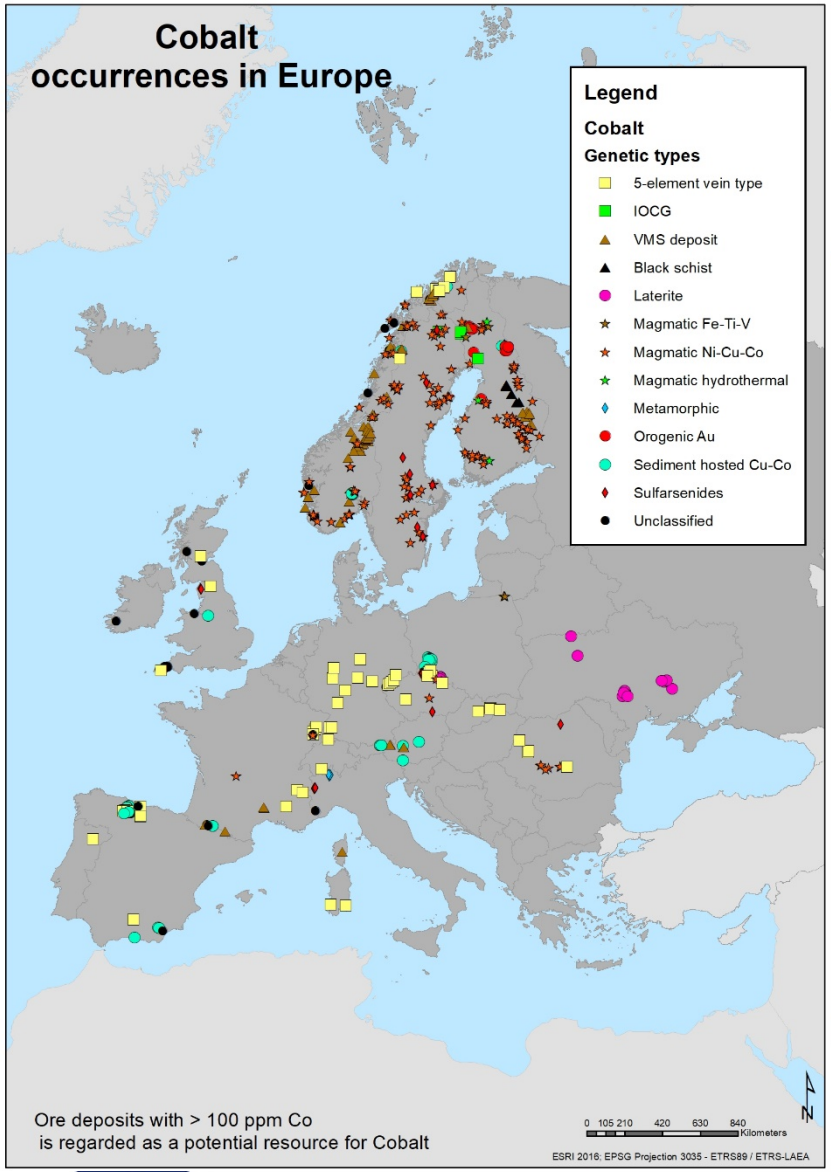
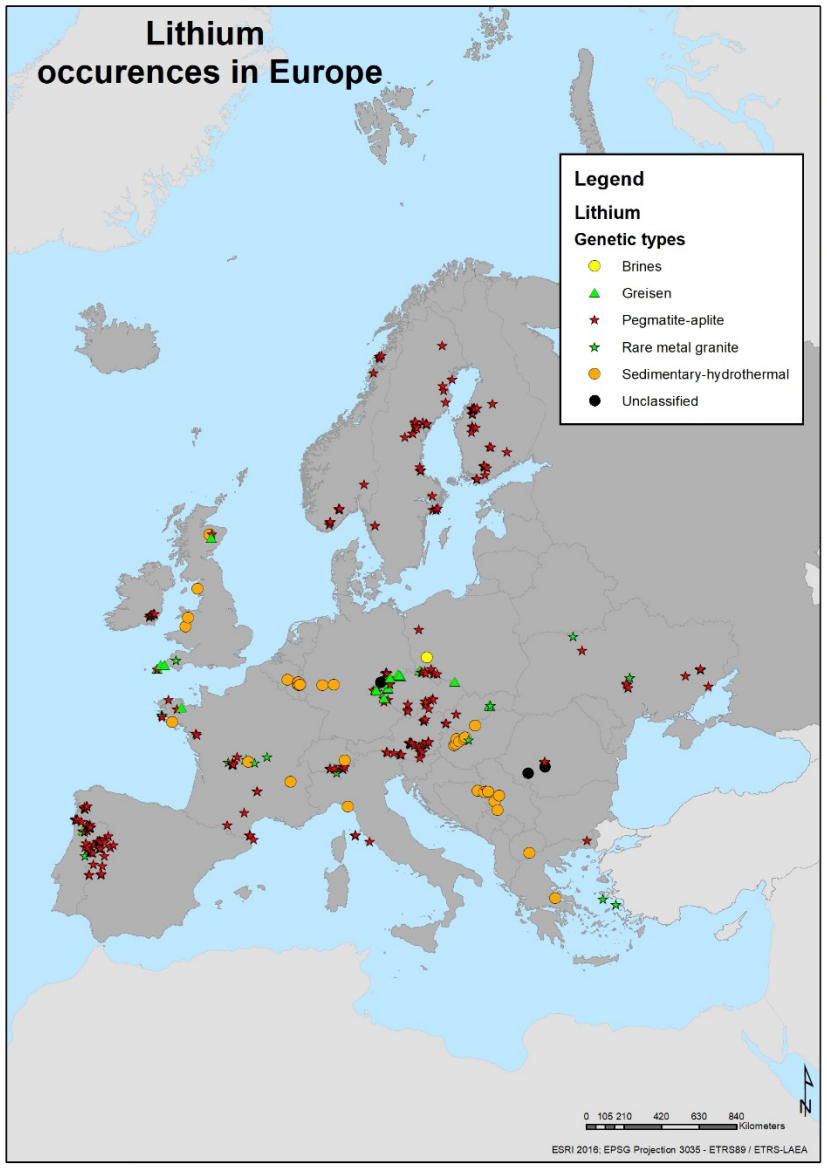
Cobalt occurrences in Europe

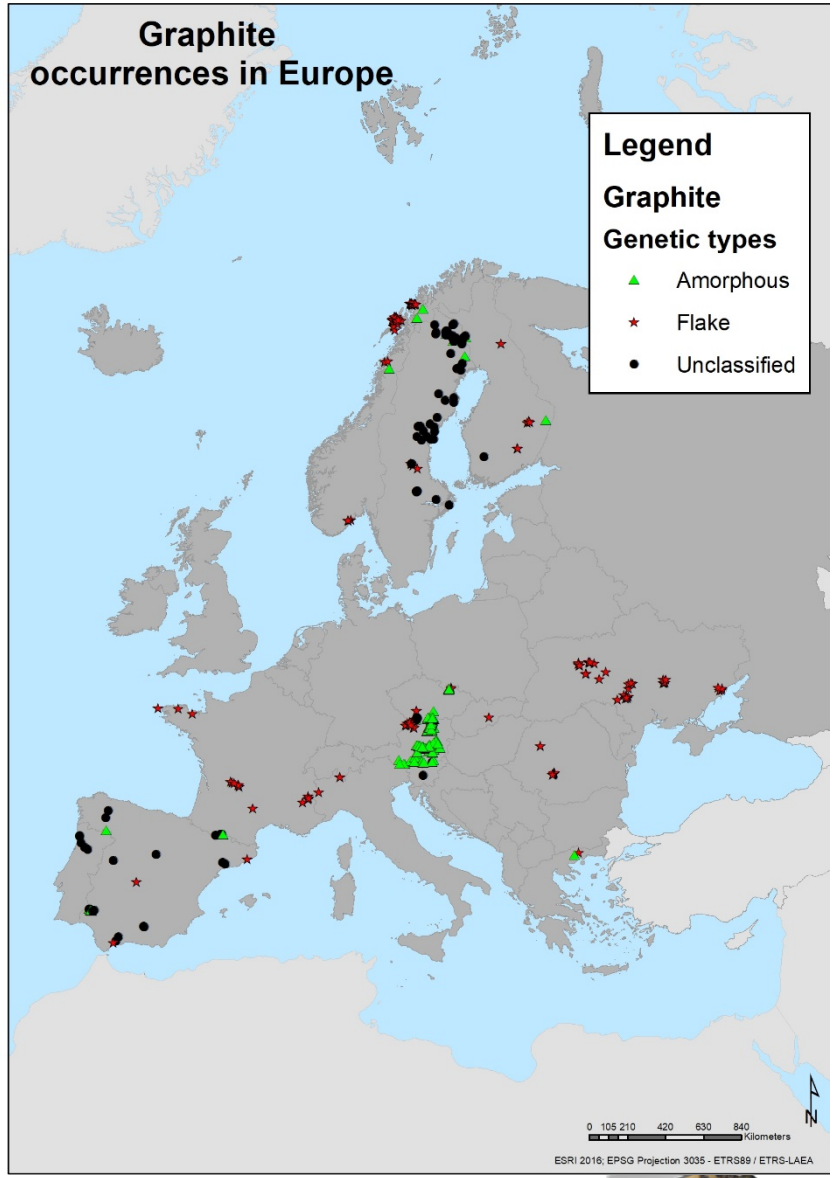


Ore deposits with > 100 ppm Co
is regarded as a potential resource for Cobalt

Lithium occurences in Europe



Graphite occurrences in Europe



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Deliverables and milestones

DELIVERABLES	Date	Status
D5.1 Provide mineral potential and prospectivity maps of key mineral provinces in Europe with deposits of, or potential for, energy critical elements (natural graphite, lithium, cobalt) in collaboration with WP 3.	31.10.2020	Under control
D5.2 Develop and/or review models for the formation of natural graphite, lithium and cobalt in Europe.	31.12.2020	Overlap with M.5.2 and D5.3
D5.3 Report: Energy critical metals and minerals in Europe; occurrence, types, characteristics, formation, and future potential for European production.	31.01.2021	overlaps with M5.2
D5.6 Provide INSPIRE-compliant harmonised data on deposits and prospects of natural graphite, lithium and cobalt for the EURMKB (RM1).	31.04.2021	Uncertain

MILESTONES	Date	Status
M5.1 Establish an overview of known European prospects and deposits of natural graphite, hard rock lithium and cobalt as a working base for WP 5	31.10.2018	Done
M5.2 Report on occurrence, types, characteristics, formation, and future potential for the production of natural graphite, lithium and cobalt from European sources	31.01.2021	overlap with D5.2
M5.3 Map of Cobalt, Graphite, Lithium deposits (including deposits where cobalt is a significant byproduct)	31.01.2020	Done
M5.4 Relevant Metallogenic maps	31.04.2021	Partly done

Most of the deliverables and milestones are expected to be achievable according to project plans. There is however some overlap between some deliverables and milestones.

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Progress /possible obstacles

To complete the various upcoming milestones and deliverables it is necessary that each partner have persons that can contribute to the compilations with information on local geology, mining and mineral resources. Since the Li, Co and graphite form very diverse group of elements, a broad expertise is necessary.

It is clear that WP5 will not be able to deliver data that is 100 % Inspire compliant. It would be necessary for WP5 to have access to some kind of data augmentation between data harvested from national databases and data that is compiled from external publications and from university research.

Transferring or harvesting data from national databases: How successful will it be?

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