

M U N I
S C I

Introduction to the CRMs potential and policy issues in the Czech Republic

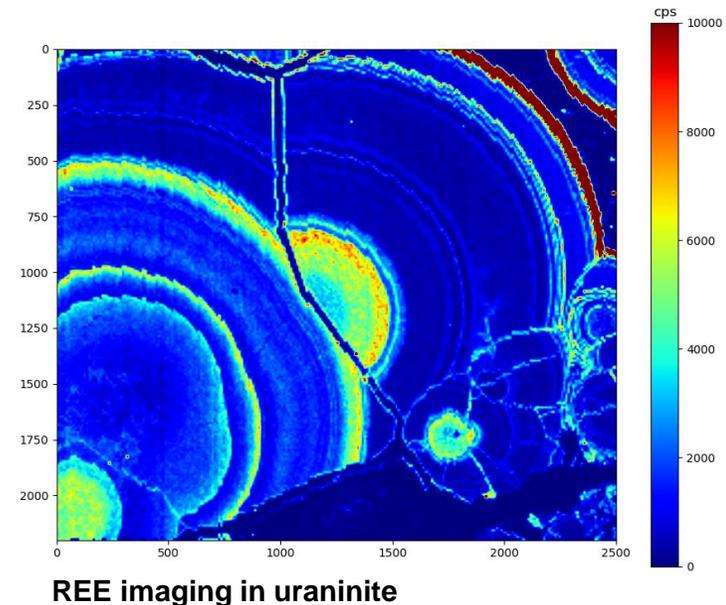
Mgr. Vojtěch Wertich, Ph.D.

Intro to the policy issues related to the CRMs

- Outputs and subjects of the key EU policy documents - **Raw Material Initiative** and list of **Critical Raw Materials** are reflected in **mining legislative of the Czech Republic (CR)**
- Actualized **Raw Materials Policy of the CR** was approved by government on in the **2017**
- Supplement to the Raw Materials Policy introduce **super-strategic raw materials of the CR** that is based on **EU CRM list** but excluding raw materials with no potential or industrial production in the Czech Republic (Borate, Gallium, Phosphate rock, Phosphorus, Magnesium, Silicon metal)
- The super-strategic raw materials are including some raw materials, that are **not listed in the EU CRMs**, but that have „potential for economy of the CR“ (**gold, uranium**)
- The supplement also introduced **direct state control** over „first stage exploration“ of these raw materials, involvement of private sector in these stage is very limited. „Second (costly) exploration stage“ is up to government approval (!).
- How it will (could) works is question of near future (no active „second“ exploration stage run by state-owned company)

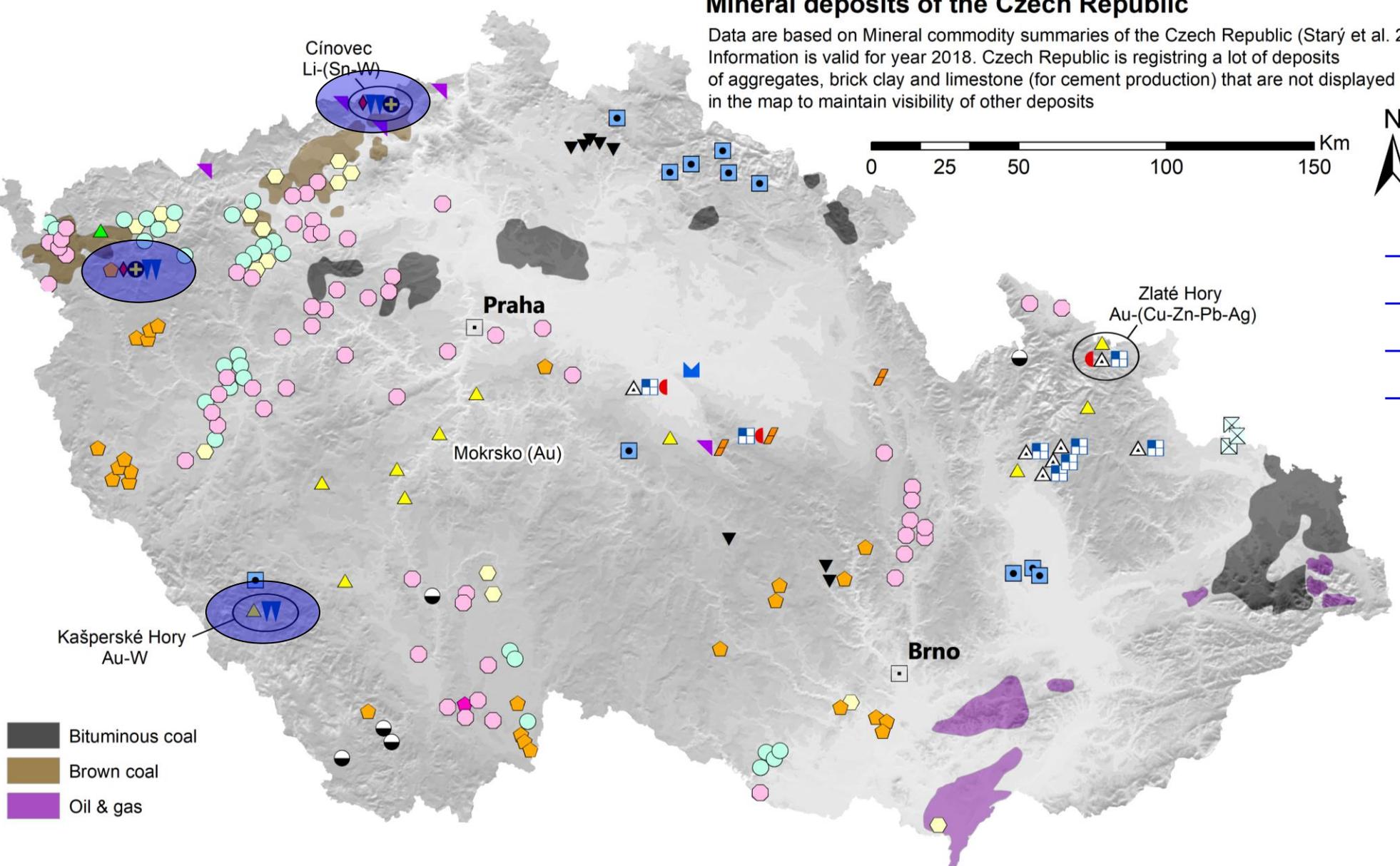
Introduction to the CRMs – selected experiences at the Masaryk University

- Policy issues – MU has also Faculty of Law, cooperation with the Department of Geological Sciences – study programme „Administrative Geology“ that is focused among other on policy issues
- Overall mining activities in the CR are very sensitive topic among public, mostly it need to solve very strong local opposition. It is quite difficult to gain „social licence to operate“. Department of Geological Sciences run projects Faculty of Social Studies and International Institute of Political Studies of the Masaryk University – (e.g. project Energy and Raw Material Security and Infrastructure that mapped local opposition and acceptance in the uranium mining regions and on exploration areas for underground storages of spent nuclear fuel.
- Strong laboratory and analytical technology background for various mineralogical and chemical solutions (spot analysis, chemical (elemental) mapping and imaging.



Mineral deposits of the Czech Republic

Data are based on Mineral commodity summaries of the Czech Republic (Starý et al. 2019)
 Information is valid for year 2018. Czech Republic is registering a lot of deposits of aggregates, brick clay and limestone (for cement production) that are not displayed in the map to maintain visibility of other deposits



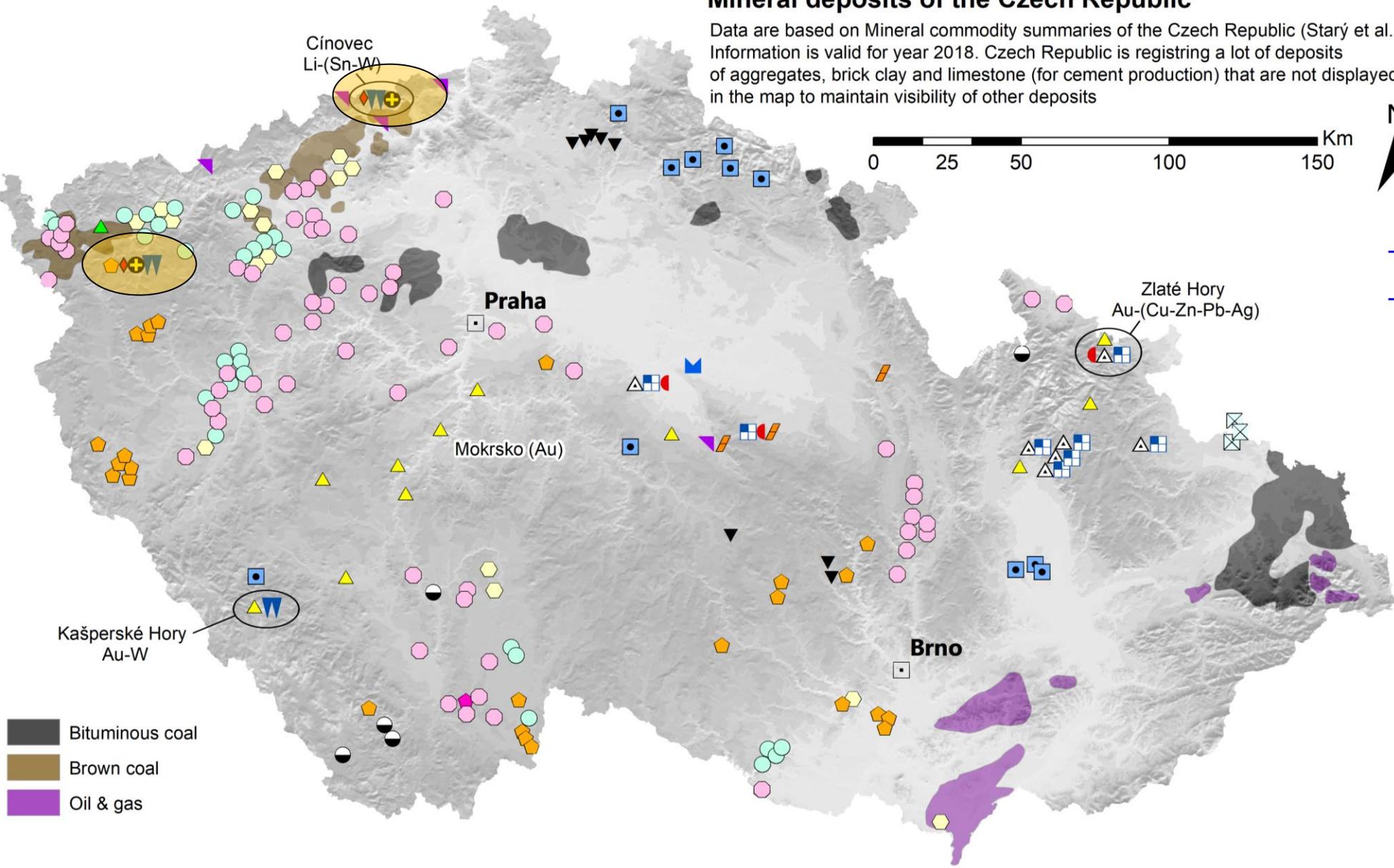
- Kašperské Hory (Au-W)
- Cínovec (Li-Sn-W±Sc±Rb)
- Horní Slavkov (Li-Sn-W)
- Potential in the area of Bohemian Upland

- Bituminous coal
- Brown coal
- Oil & gas

- | | | | | | | |
|---|--|---|---|---|--|--|
| Bentonite | Feldspar | Dolomite | Graphite | Lithium | Gold | Copper |
| Clay | Diatomite | Manganese | Barite | Tin | Silver | Uranium |
| Kaolin | Gypsum | Germanium | Fluorspar | Tungsten | Lead-Zinc | |

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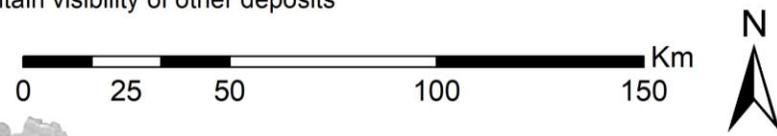
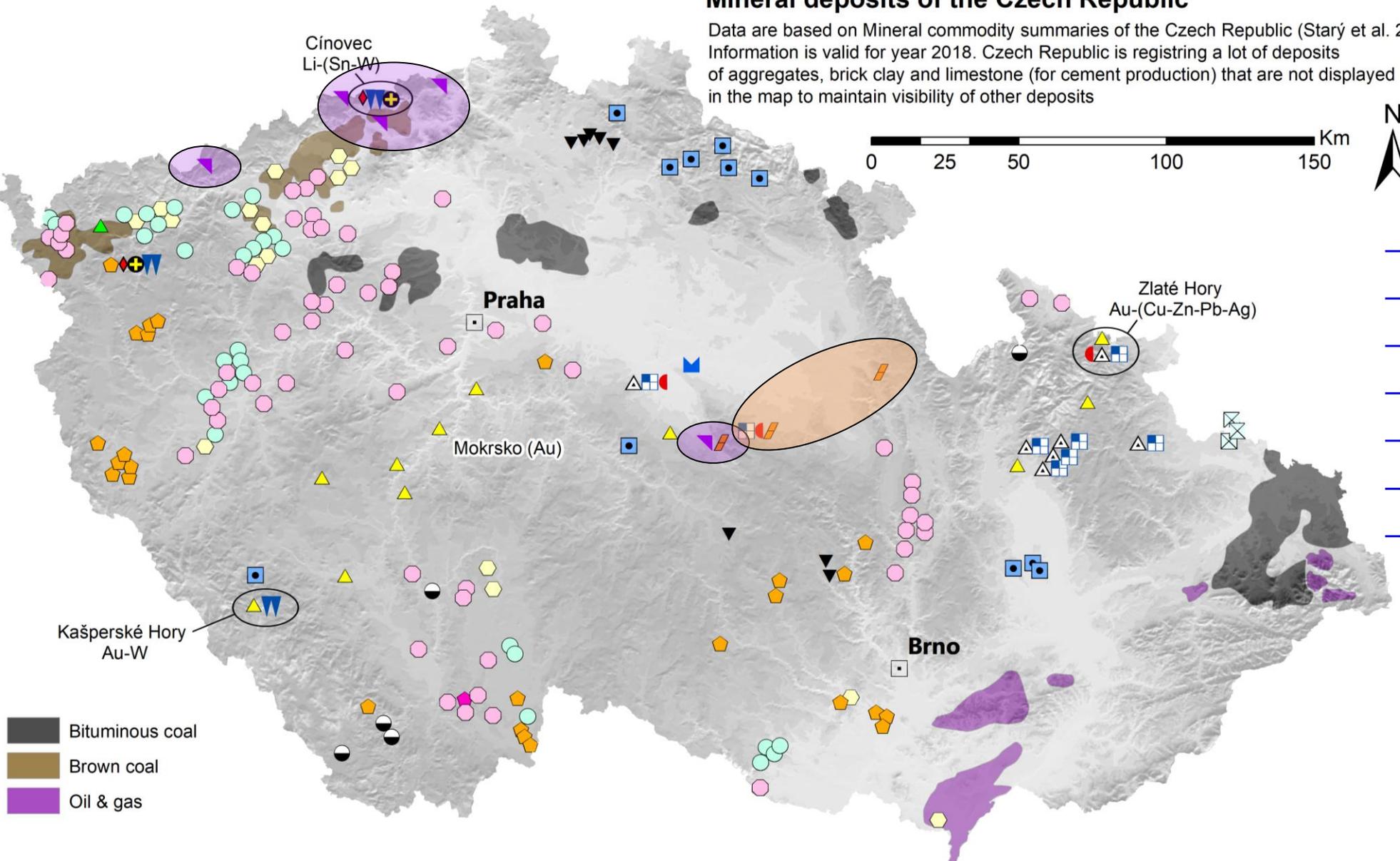
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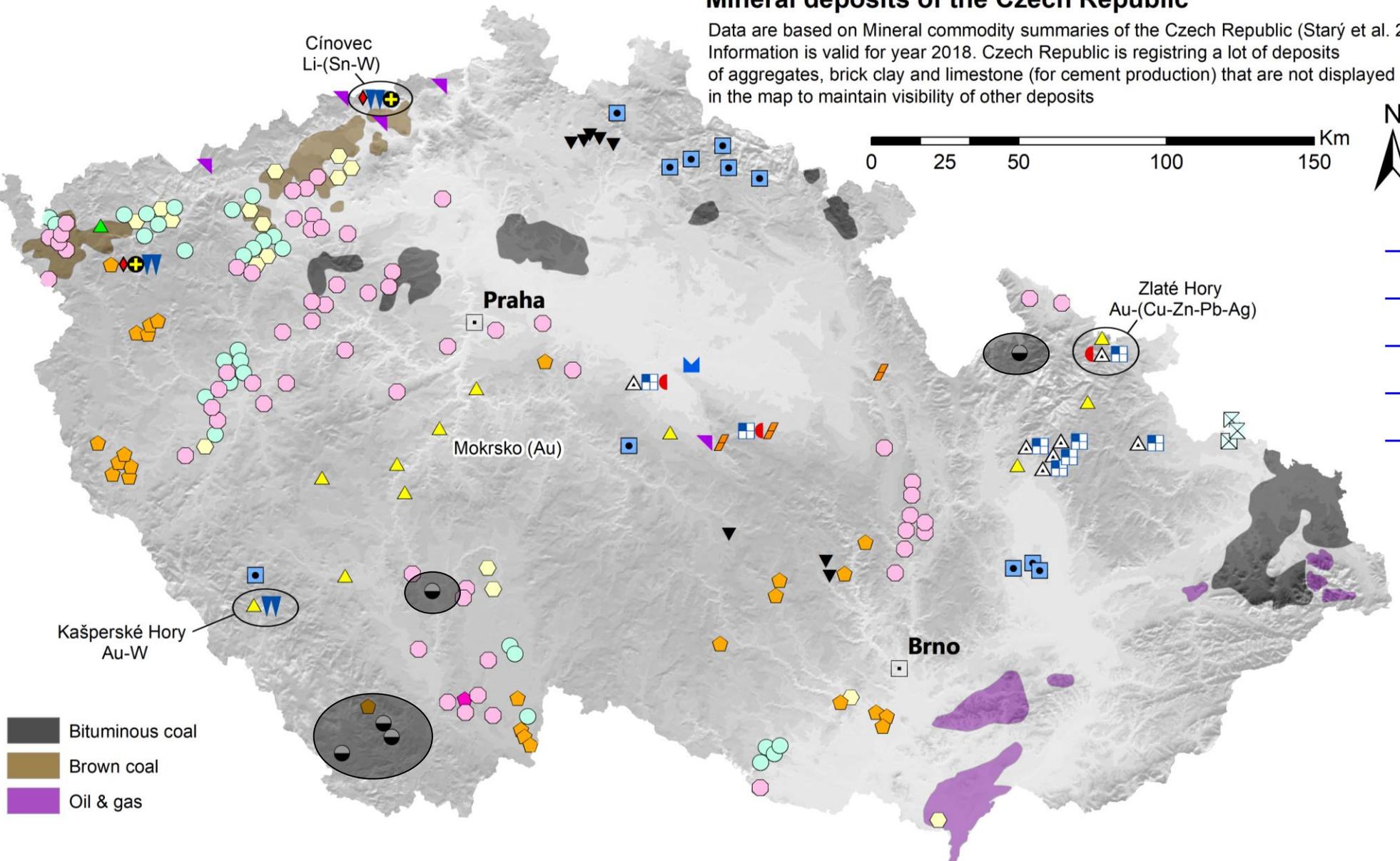
- Běstvína (F-Ba)
- Jílové u Děčína (F-Ba)
- Moldava (F-Ba)
- Kovářská (F-Ba)
- Křižanovice (Pb-Zn-Cu-Ba)
- Bohousová (Ba)
- Přítkov-Proboštov (F) – tailing

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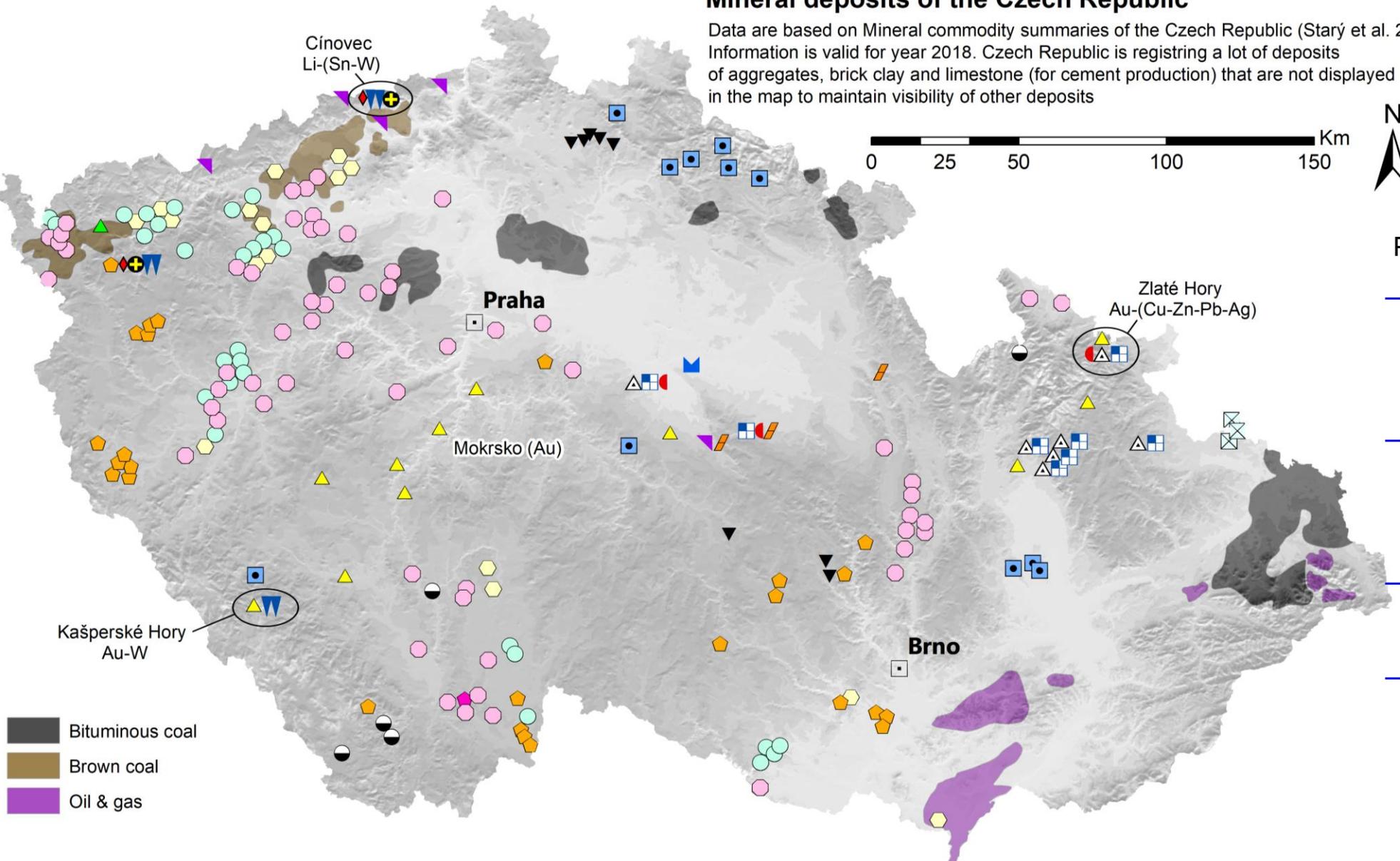
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- Český Krumlov
- Bližná
- Lazec-Křenov
- Koloděje nad Lužnicí
- Velké Vrbno

- | | | | | | | |
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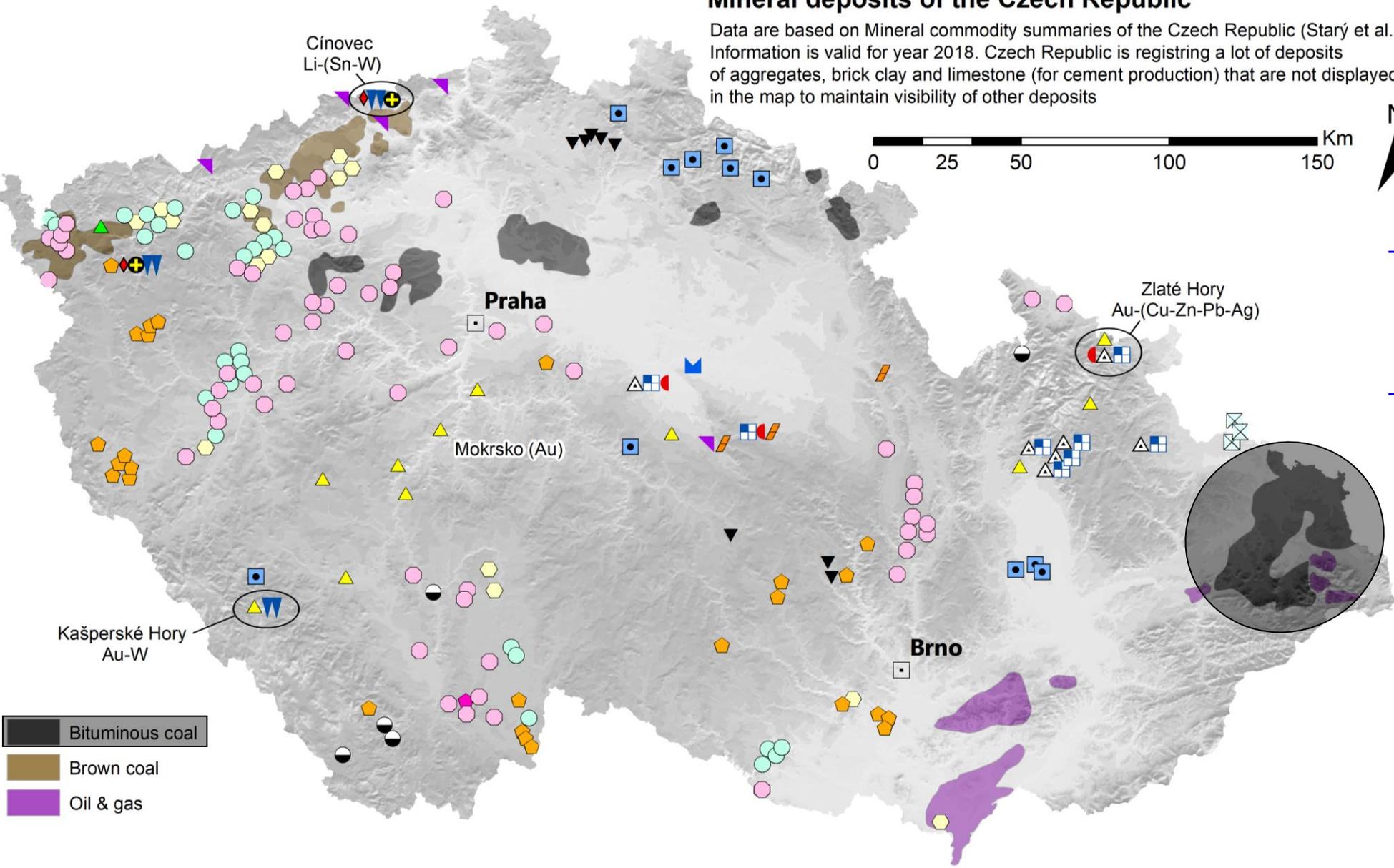
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- Potential CRM localities
- Uranium deposits (by product REE, Ta Nb, Hf, estimated resources, Geobarr project)
 - Čistá-Jeseník massif – highly fractionated magmatic rocks (REE, Ta, Nb, Hf)
 - Germanium in brown coal basins
 - Indium and cobalt at several polymetallic deposits (Tisová exploration prospect)

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- Coking coal, Upper Silesian basin, Ostrava-Karvina mining district
- Socio-economic and environmental issues, rundown of mining activities in the region

Conclusion

- Masaryk University has experience and technological background that can be used in projects related not only to the geological and mining issues of CRMs but also to the „soft skills“ important for mining industry as is various socio-environmental aspects, (social licence to operate, SDG goals, etc.)
- Czech Republic, Bohemian Massif possesses potential in several CRMs
- Not-sufficient or non-existent data for many of these deposits or potential deposits. Especially economic, mining cost (pre-feasibility) studies
- Current legislative (since 2018) established direct control of the state and state owned companies in exploration of CRMs. Limitations for private sector involvement.

Thank you for your attention

