



GEOLOGICAL SURVEY OF ESTONIA



# Welcome!

## Conference on Exploration and Exploitation of Critical Raw Materials: Focus on Northern Europe

Sirli Sipp Kulli  
Director

"CRM for a sustainable future", 7-9th of Oct 24, Tallinn, Estonia

# Let's give a warm round of applause for

the organizing committee:

**Kathryn Goodenough**, British Geological Survey

**Kairi Põldsaar, Heikki Bauert**, Geological Survey of Estonia

**Juha Kaija, Ville Järvinen**, Geological Survey of Finland

**Saija Luukkanen, Pertti Sarala**, University of Oulu

**Jakob Keiding, Florian Smit, Carsten Møller Nielsen**, Geological Survey of Denmark and Greenland



This conference is organized within the EGT-TWINN project, an international geological research cooperation for Estonia's green transition between EGT, GTK, GEUS, BGS, University of Oulu. Funded through the Horizon Europe program.

# The Geological Committee,

the predecessor of the Geological Survey of Estonia, was established by Estonian President's decree on **June 3, 1937**



**Geoloogiline komitee alustas tegevust**  
Sakatakse fosforiidi tagavarasid täpsamalt kindlaks määrama

Mr. Selter, the Secretary of Ministry of Economics, speech on the **18<sup>th</sup> of Aug 1937**:

"The earth's crust is of fundamental importance in the life of mankind. Cultural history tells us that the development level of a human as a hunter, fisherman and a farmer remained low.

**Only from that time, when ores began to be dug and metals to be melted, did the rise of a human begin.**

**Mining the metals became a tool for men by which he rose to become a serious ruler of nature".**

# And one more slide about History

- Successful **Phosphorite War** was the national protest movement in the late-1980s against the opening of large phosphorite mines by the Soviet Union.
- Country-wide campaign created opportunities for the public to pressure the political decisions, that led to the restoration of **Estonian independence in 1991**.

- In the related turmoil the **public image of geologists became negative**, resulting in a significant drop in the amount of geology students for the next 30 years.
- For decades, geological services were provided by state-owned company, with main goal to create profit via providing services.

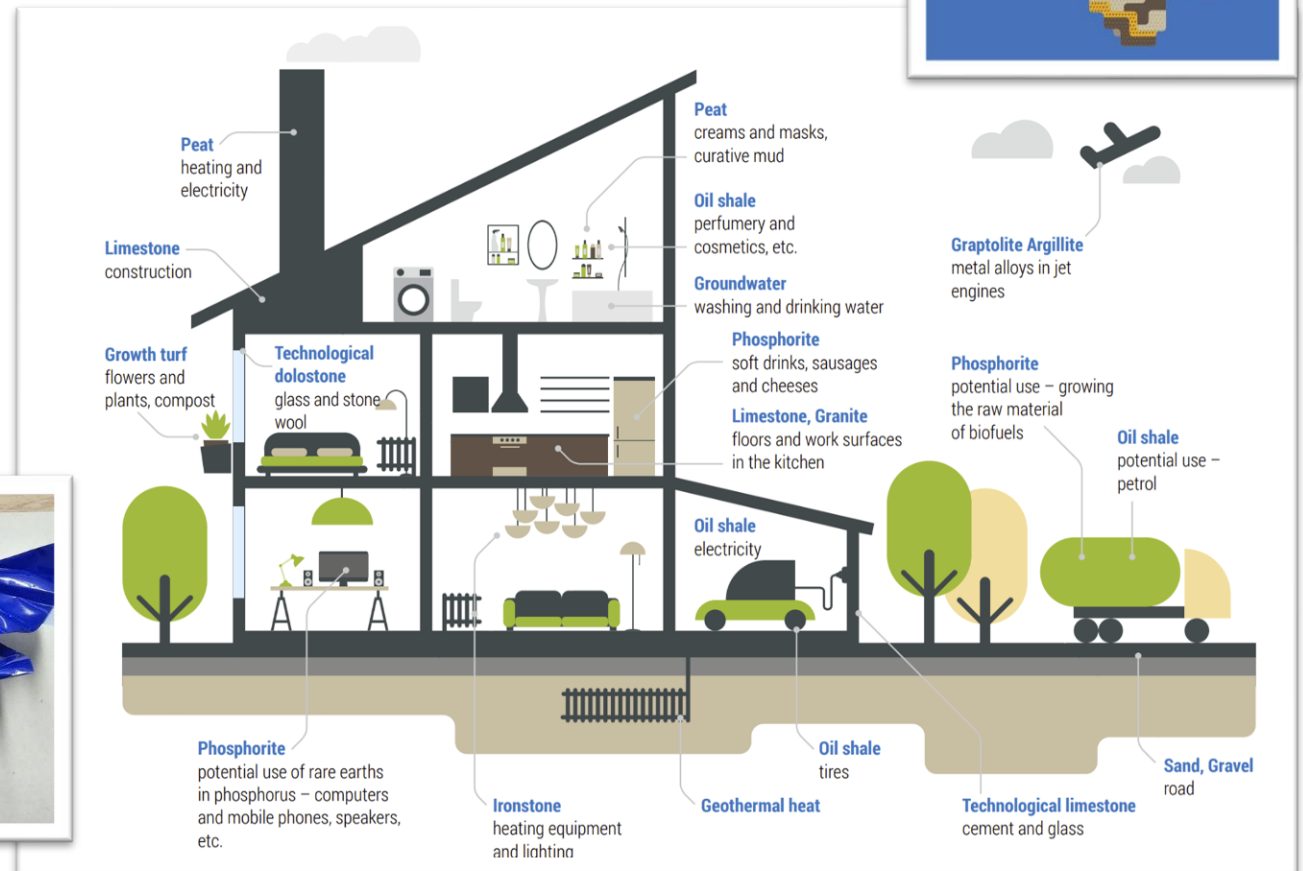
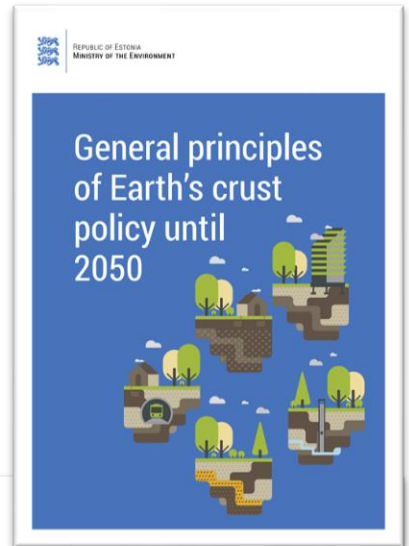


*Protest meeting in 1987, Tartu*



# The New Start

- Parliament of Estonia approved 2017 the framework strategy called “**General principles of the Earth’s Crust policy until 2050**” with the main goals of securing science-based management of geological resources and increase resource efficiency.
- Geological Survey of Estonia as **a national authority** was re-established on 1<sup>st</sup> of Jan 2018 under the administration of the Ministry of Economic Affairs and Communications.



# The Geological Survey of Estonia (GSE / EGT)

- Team of 61 full time + 18 part-time
- Gender balance 46:54
- 16 PhD, 29 M.Sc.
- Average age 44 years
- 39% early-career personnel with the age below 35 years.





# 6 departments

- Geoinformation
- Mineral Resources
- Hydrogeology and Environmental Geology
- Marine Geology and Geophysics
- Geothermal Energy
- Administration office





# GSE Mission is to provide

- national geological mapping
- advanced applied research and development
- preservation and dissemination of geological data
- advisory services to government bodies
- monitoring environmental indicators (groundwater, coastal dynamics, seismicity...)
- public education on Earth's crust, resources and policies.

Central to its mission is the support of governmental policies on mineral exploration and land use.





# Digital Geological Archive

- <https://fond.egt.ee/fond/>
- Geoinformation departement
- 0,5M€ for database solutions development



Enter, select or set search parameters on the map and launch the search. Here are the matches for entered para



# Research Centre in Arbavere





# Re-location of drill cores

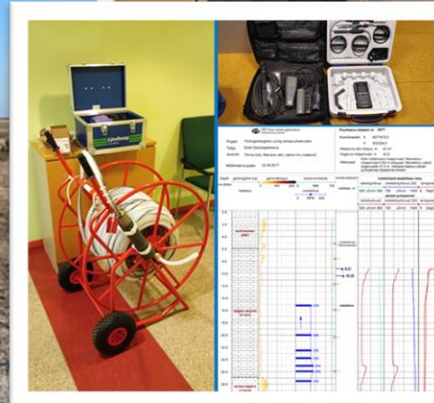
- ~ 150km cores, mainly from Soviet times
- ~ 25 000 boxes
- 7 new warehouses (700m<sup>2</sup>), 8th coming





# Setting up the Scene

- GeoTek Multisensor Core Scanner
- Trident thermal conductivity instrument
- New Magnetometry system
- New Seismic Stations
- New bore-hole probes



Wet-end components

Seismic profiling subsystem

Sound source  
Boomer plate/  
Sparker



Streamer



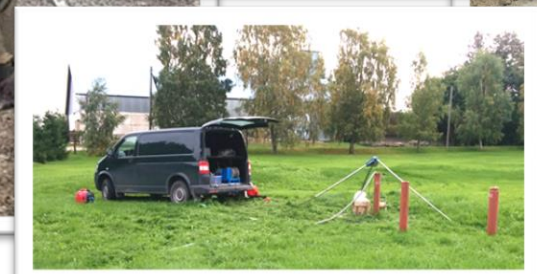
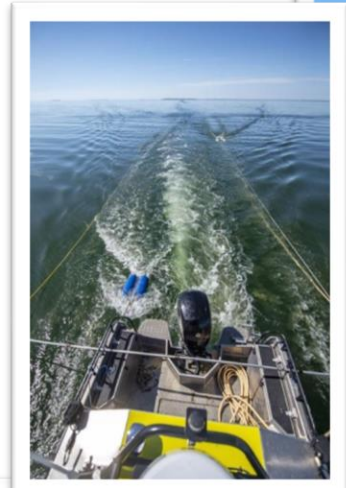
Chirp/pinger profiling subsystem

Transducer



Side scan sonar subsystem

Towfish





# Open Communication

- Movie clips about explorations - filmed by Juhan Aare, a former leader of the Phosphorite war
- Periodic reporting to Government, Parliament, local communities, political parties
- New and historic reports public
- Public polls – should / how we can explore?



I am very / rather familiar with the fact that exploration of mineral resources is carried out in Estonia	<b>2017</b>	<b>2021</b>	<b>2023</b>	Awareness significantly higher (39%) than at the previous study
	5%	31%	39%	
More research should be done on the environmental, social and economical impacts of the usage of mineral resources.	<b>2011</b>	<b>2021</b>	<b>2023</b>	About 2/3 of Estonian think that the impact of the use of mineral resources in various spheres should be studied more. Residents' assessments on this issue are consistent.
	18%	68%	67%	

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Wise decisions for the nation and for the Europe  
updated best scientific knowledge!

**Please enjoy the conference  
and visiting our facilities!**

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