



The Geological Surveys of Europe

EGS -ASGMI Workshop, Madrid, 2015



ASGMI

Asociación de Servicios
de Geología y Minería
Iberoamericanos

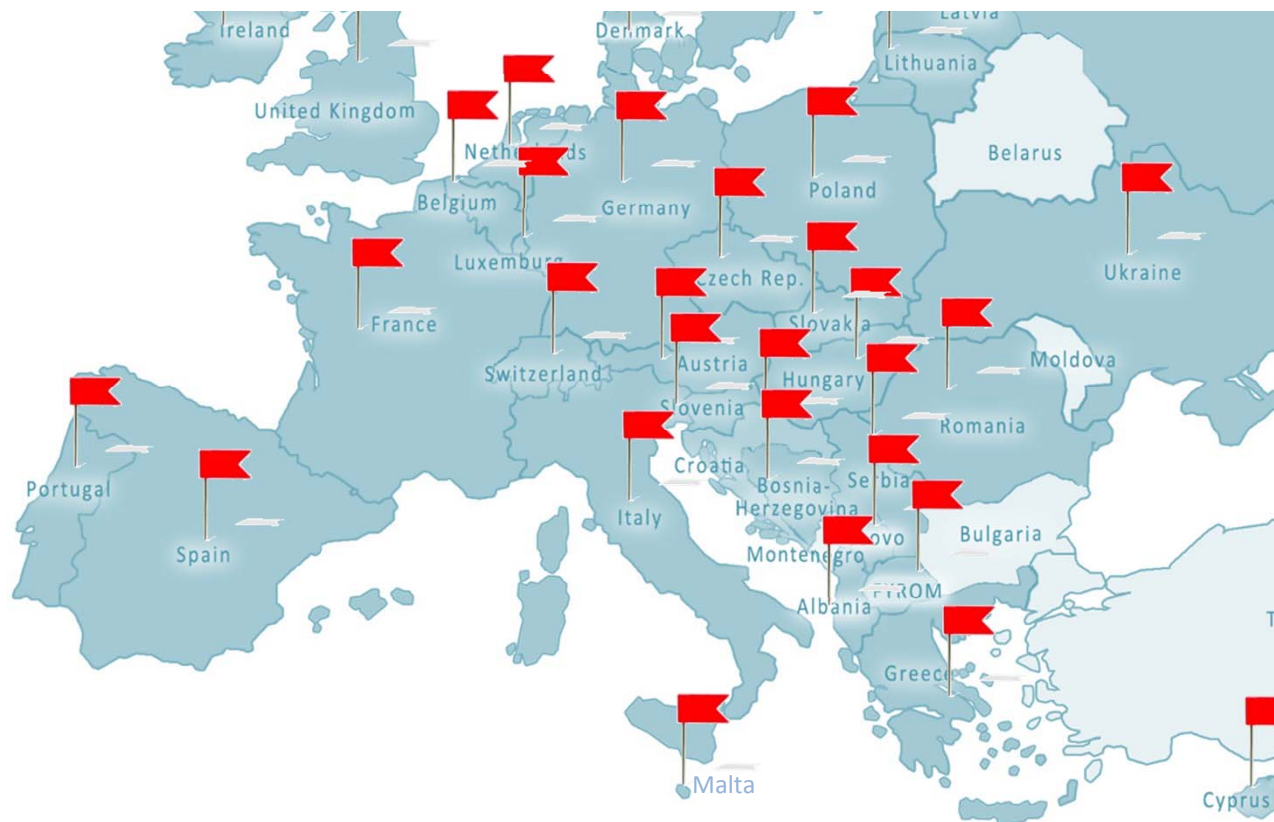
EuroGeoSurveys An Introduction



40 Years Listening to the Beat of the Earth

EuroGeoSurveys

37 Geological Surveys



- Albania
- Austria
- Belgium
- Bosnia & Herzegovina
- Croatia
- Cyprus
- Denmark
- Estonia
- Finland
- France
- FYROM
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Kosovo
- Latvia
- Lithuania
- Luxembourg
- The Netherlands
- Malta
- Norway
- Poland
- Portugal
- Romania
- Russian Federation
- Serbia
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Ukraine
- United Kingdom



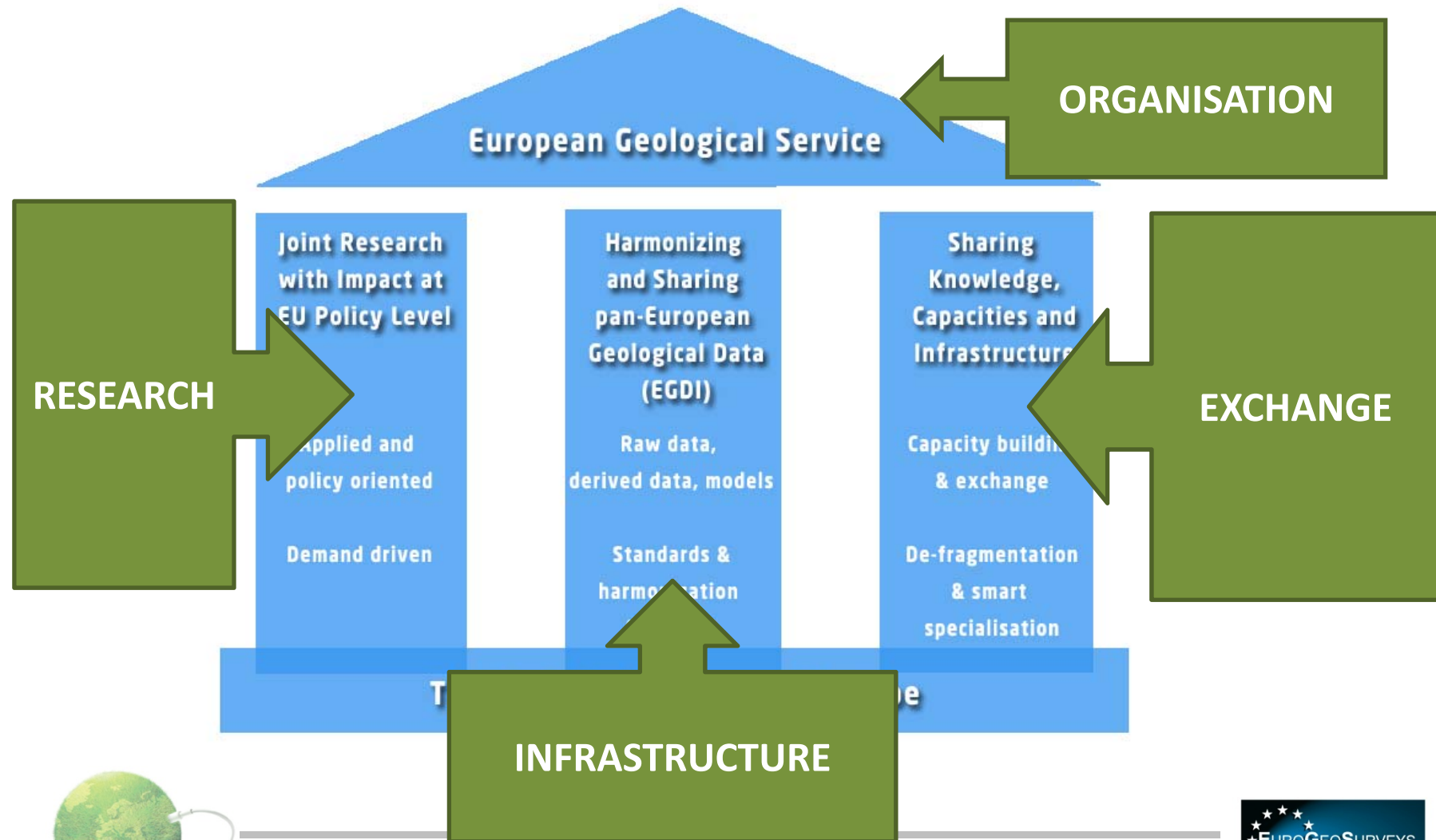
Mission

Provision of public Earth science knowledge to support:

- ✓ EU's competitiveness
- ✓ Social well-being
- ✓ Environmental management
- ✓ International commitments



EGS Strategic vision: towards a European Geological Service



EuroGeoSurveys - The Geological Surveys of Europe



EGS Structure -1

37 Geological Surveys (today)

Directors have General Meeting every 6 months

Executive Committee, Elected President, VP,
Treasurer & Committee Members

Selection Committee, Audit Committee

Each GSO- National Delegates (6 Monthly)

Thematic Expert Groups & Task Forces



EGS Structure -2

Brussels Office (Registered Organisation)
Secretary General (4 years * 2)
Secretariat, Science & Policy Officers (10),
Communications, Admin & Support

Key role in implementing strategy,
communicating with EU,
Essential core/hub of EGS activities



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**SPATIAL INFORMATION
(INSPIRE)**



MINERALS RESOURCES



MARINE GEOLOGY



TNO innovator
for life
GEOENERGY



GEOCHEMISTRY



**SUPERFICIAL DEPOSITS
(SOIL RESOURCES)**



**EXPERT GROUPS
&
TASK FORCES
CHAIRMANSHIP**



STRATEGY



**INTERNATIONAL COOPERATION
AND DEVELOPMENT**



**Instituto Geológico
y Minero de España**

**EARTH OBSERVATION
AND GEOHAZARDS**

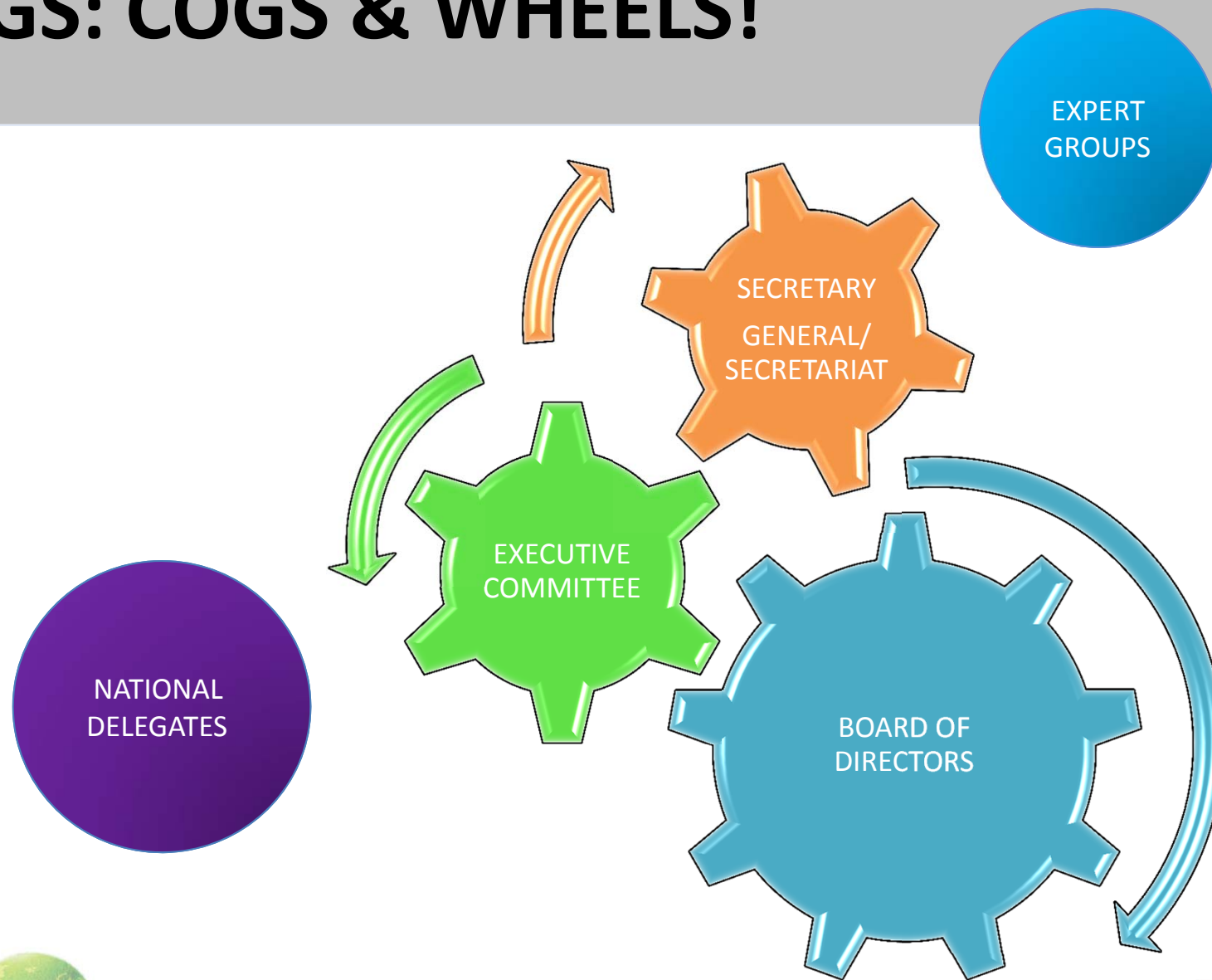


**GEUS
WATER RESOURCES**

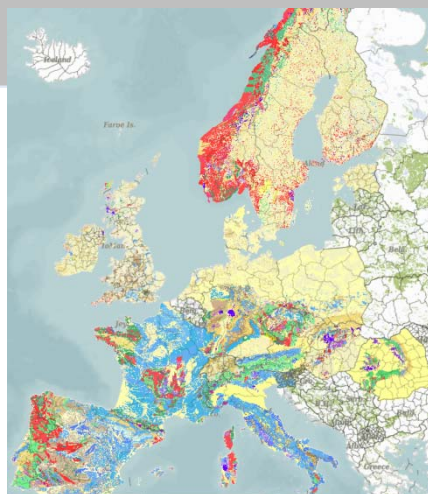


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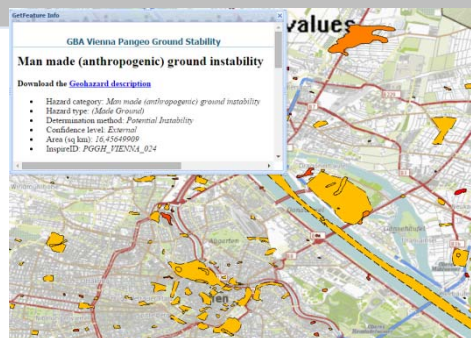
EGS: COGS & WHEELS!



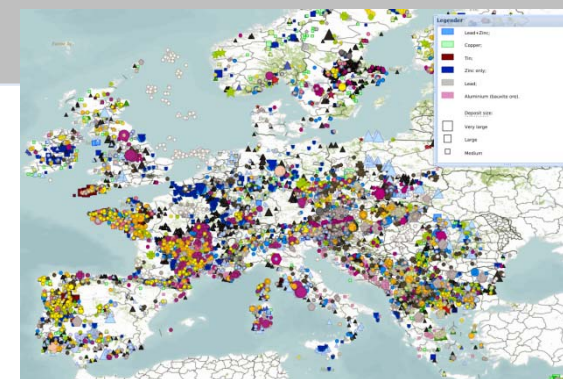
Making Europe stronger through geology



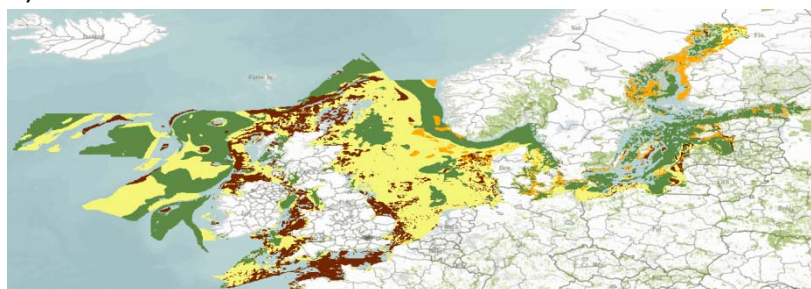
OneGeologyEurope; Surface geology of Europe in 1:1 mil. Using distributed architecture, including ISO19115 metadata and WMS/ WFS (GeoSciML) services



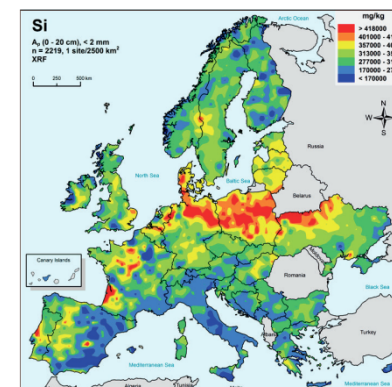
PanGeo; Ground instability assessment of major European cities using PSI data from satellite in combination with in situ data



Mineral deposits; Compiled and harmonised through a number of projects (ProMine, EuroGeoSources, Minerals4EU) using distributed architectures, ISO, OGC and CGI standards



EMODnet-geology; Marine substrate map. Currently in 1: 1 million, but aiming for 1: 250 000 covering all European waters



GEMAS; geochemical mapping of agricultural and grazing land soils of Europe



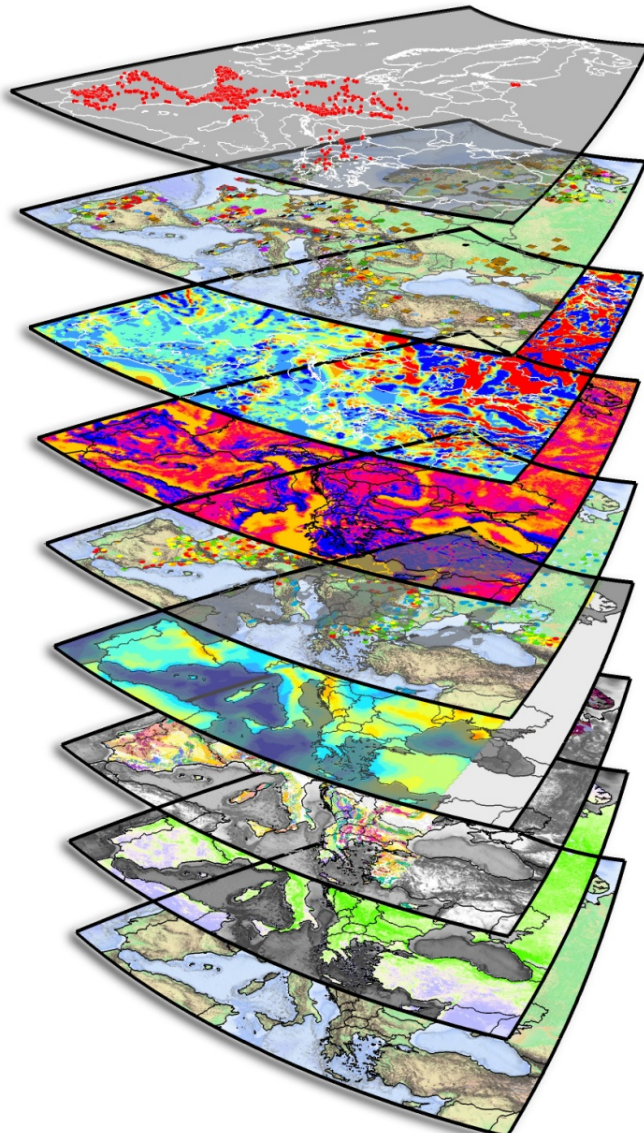
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ProMine

> PROMINE GIS



ANTHROPOGENIC
CONCENTRATIONS

MINERAL DEPOSITS

AEROMAG
(CHAMP satellite data)

GRAVITY

HEAT FLOW

MOHO DEPTH

GEOLOGY

SATELLITE IMAGERY

GEOGRAPHY - DEM

→ homogeneous multi-layer information system covering the whole European territory.

→ This GIS allows, a predictive approach of EU mineral resources endowment.

→ For selected commodities, specific types of ore deposits, selected belts or selected geodynamic domains, ...

ProMine Project

- Aluminium
- Antimony
- Arsenic
- Barite
- Bismuth
- Chromium
- Cobalt
- Copper
- Fluorite
- Germanium, Gallium
- Gold
- Iron
- Lithium
- Lead
- Manganese
- Mercury
- Molybdenum
- Nickel
- Phosphate
- PGE
- Pyrite
- Rare Earth
- Silver
- Tantalum
- Tin
- Titanium
- Uranium
- Vanadium
- Tungsten
- Zinc
- Zirconium
- Class A
- Class B
- Class C

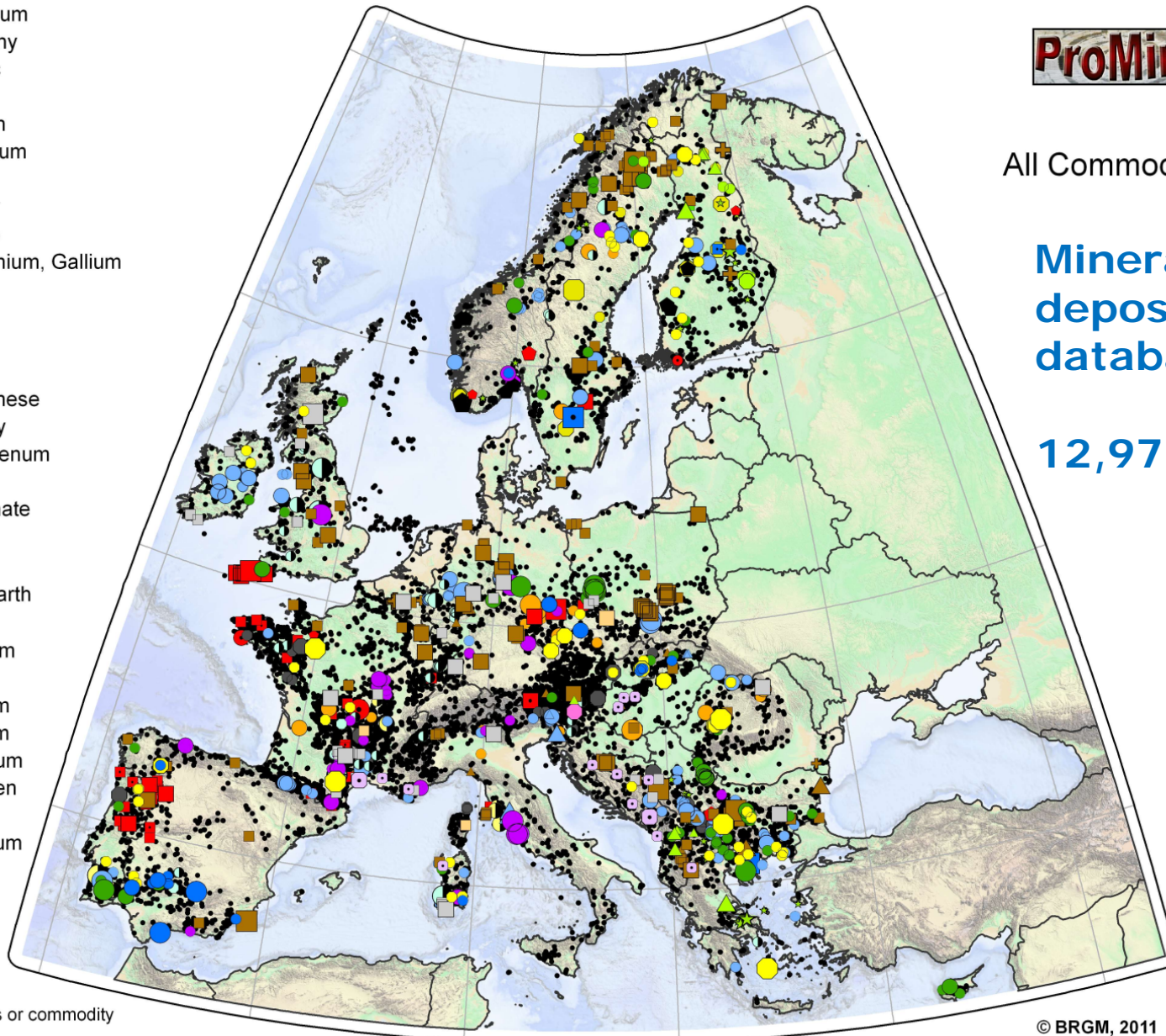
• Other class or commodity

ProMine

All Commodities

**Mineral
deposits
database**

12,979 records



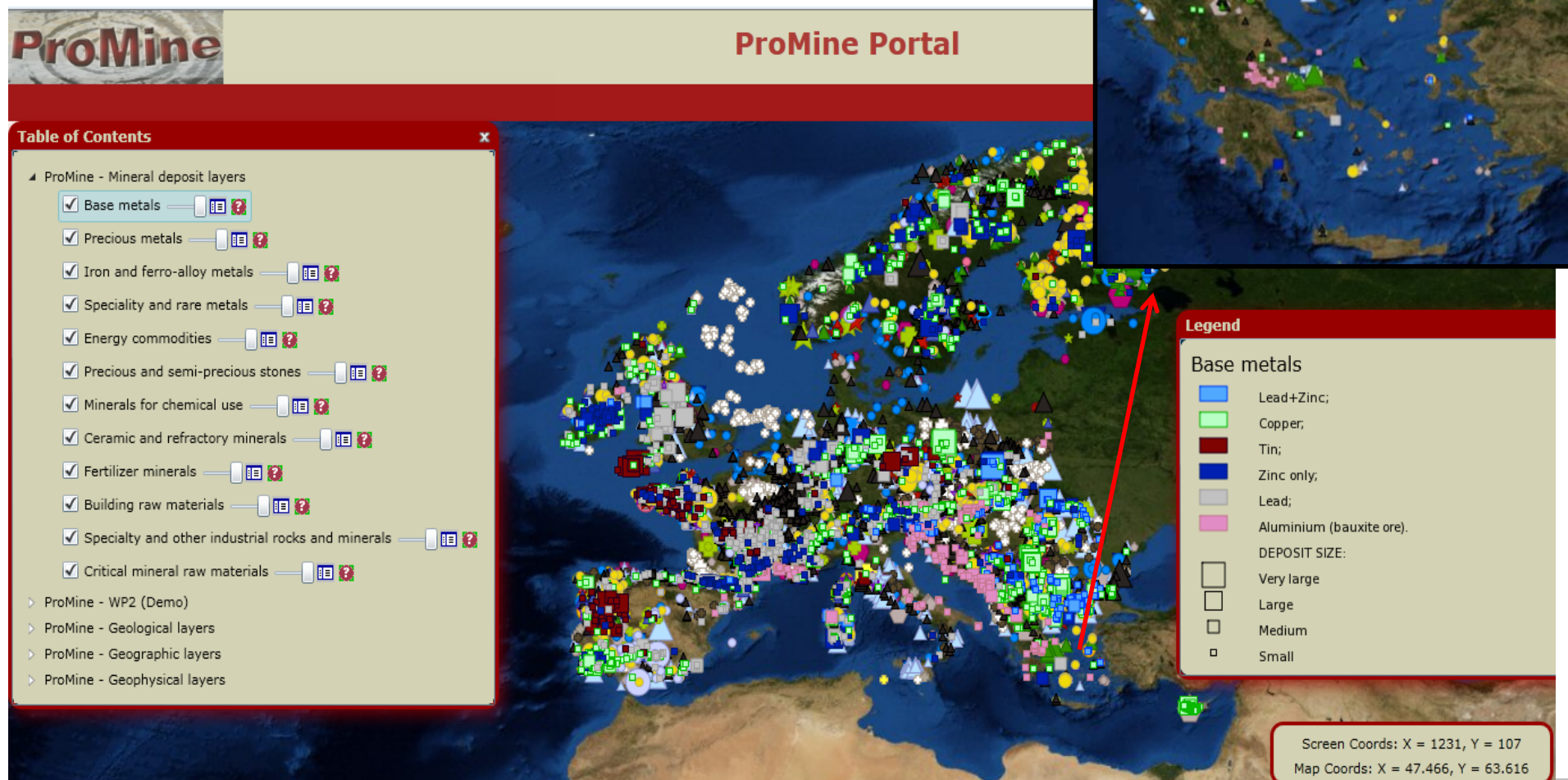
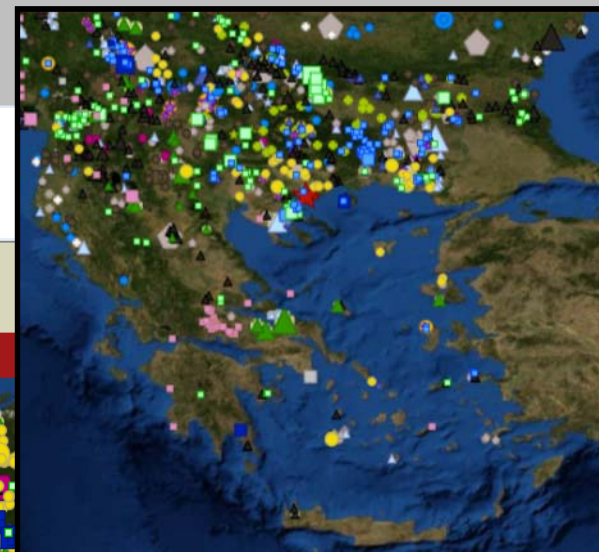
© BRGM, 2011

0 500
km

PROMINE Portal

<http://ptarc.gtk.fi/promine/default.aspx>

(total number of 13,686 records)



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EMODnet

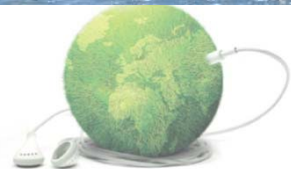
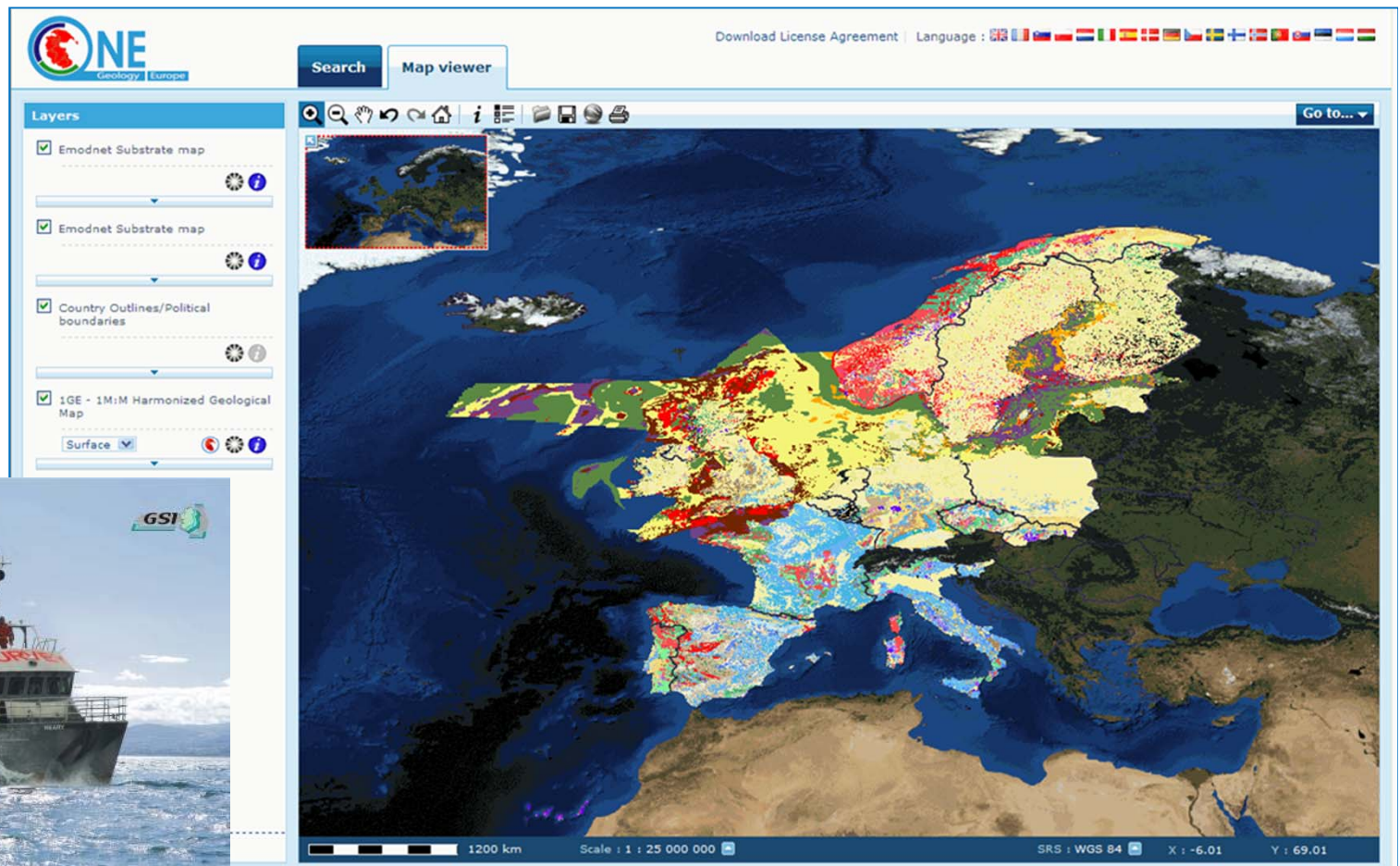
European Marine Observation Data NETWORK



EMODnet



European Marine
Observation and
Data Network



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GEMAS

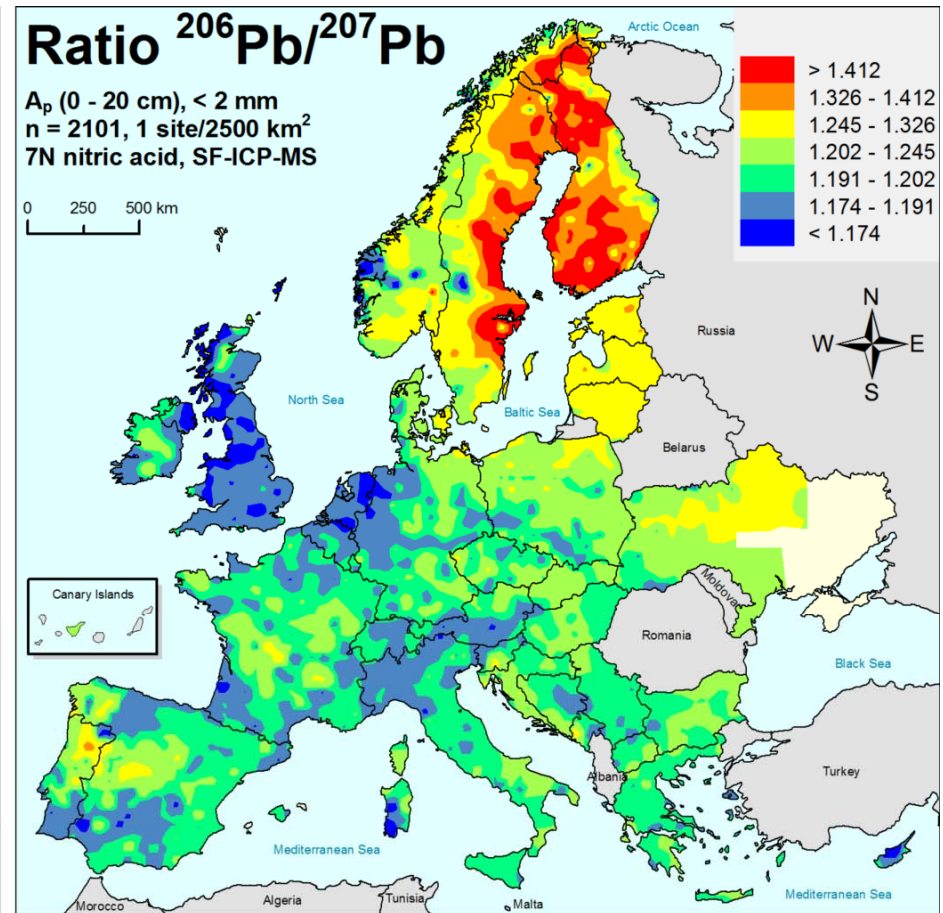
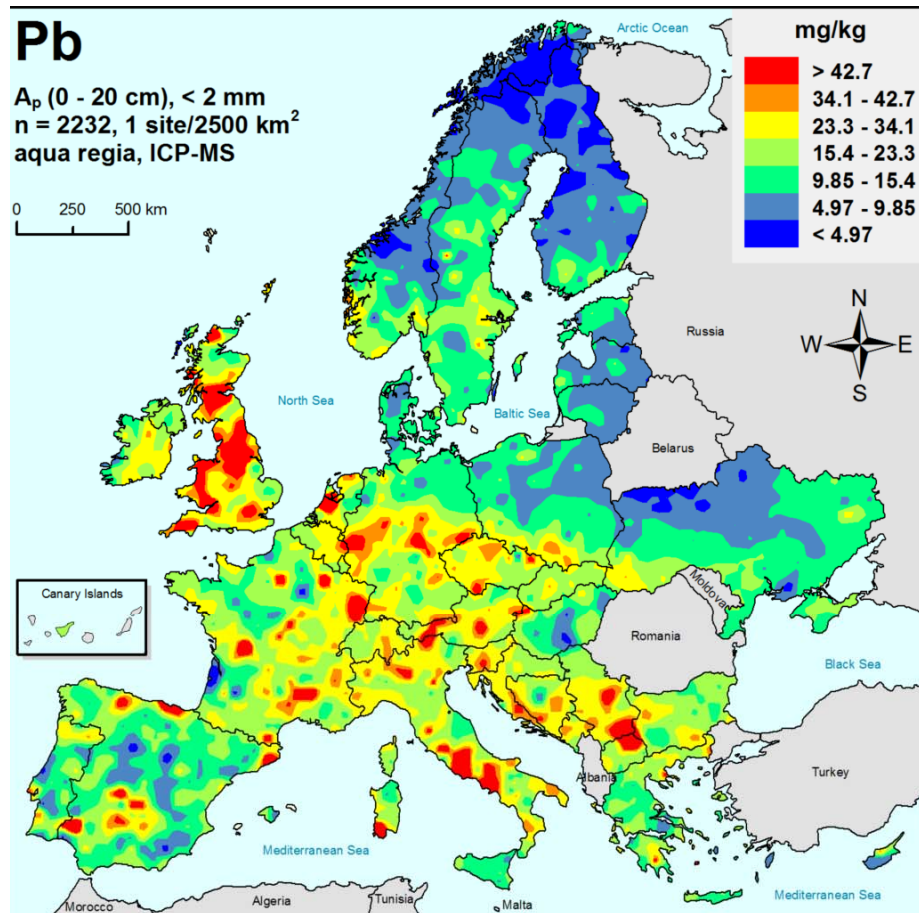
Geochemical Mapping of Agricultural soils

- 33 European countries sampled
- 65 organisations
- Land-use (agricultural soil, 0-20 cm; grazing land soil, 0-10 cm)
- Spatial scale (homogeneous sampling density: 1 site/2,500 km² (grid of 50 x 50 km))
- In partnership with industry (Eurometaux)
- Harmonised Dataset
- Freely available



GEMAS

Geochemical Mapping of Agricultural soils



Lead isotope analyses: Agricultural soils (A_p) 0-20 cm



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Towards a European Geological Data Infrastructure

EGDI
SCOPE



EuroGeoSurveys - The Geological Surveys

A 3D wireframe cube floating in a sky with clouds. The vertical axis is labeled 'Resolution', the horizontal axis is 'Coverage', and the depth axis is 'Themes'. The cube is composed of smaller, solid-colored blocks.

European Geological Data Infrastructure

- Pan-European, interoperable, thematic data
- Mineral & energy resources, Groundwater, Soils, Hazards, marine geology, etc)
- Act on questions from society
- Implementing INSPIRE
- Building on past EU projects
- Growing with on-going and future projects

Connecting thematic data from all Geological surveys across Europe

A map of Europe with numerous vertical lines extending upwards from the landmass, representing data connections to the infrastructure above.

EGS Future/Next Steps

ERA NET

Developing a Geoscience Research Programme for EU
Groundwater, GeoEnergy & Raw Materials

Minerals/Raw Materials Support & Information
Mins4EU

JRC Collaboration on Shale Gas Potential

International collaboration- PanAfGeo
Growing through Projects & Strategically!



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What does EGS do for



- Brussels/EU Presence
- Access to expertise & best practice - Expert Groups
- Awareness of EU policy relevant to Geoscience
- Networking opportunities
- Project opportunities
- Leads to funding for staffing on projects
- Improvement to National Databases
- Communication Products- Books, brochures, videos



What could EGS do for ASGMI?

And what could ASGMI do for EGS?



That is what we are here to find out!

EGS in summary, in pictures!



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**THANK YOU FOR
YOUR ATTENTION!**



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