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Moving Forward: The African Mineral Geoscience Initiative ('AMGI'):

Summary of Events at Addis Meeting in October 2012, Progress Made and Next Steps on AMGI

*Presented on behalf of the Sustainable Energy, Oil, Gas and Mining Unit
(SEGOM), The World Bank*

by David Ovadia, BGS International



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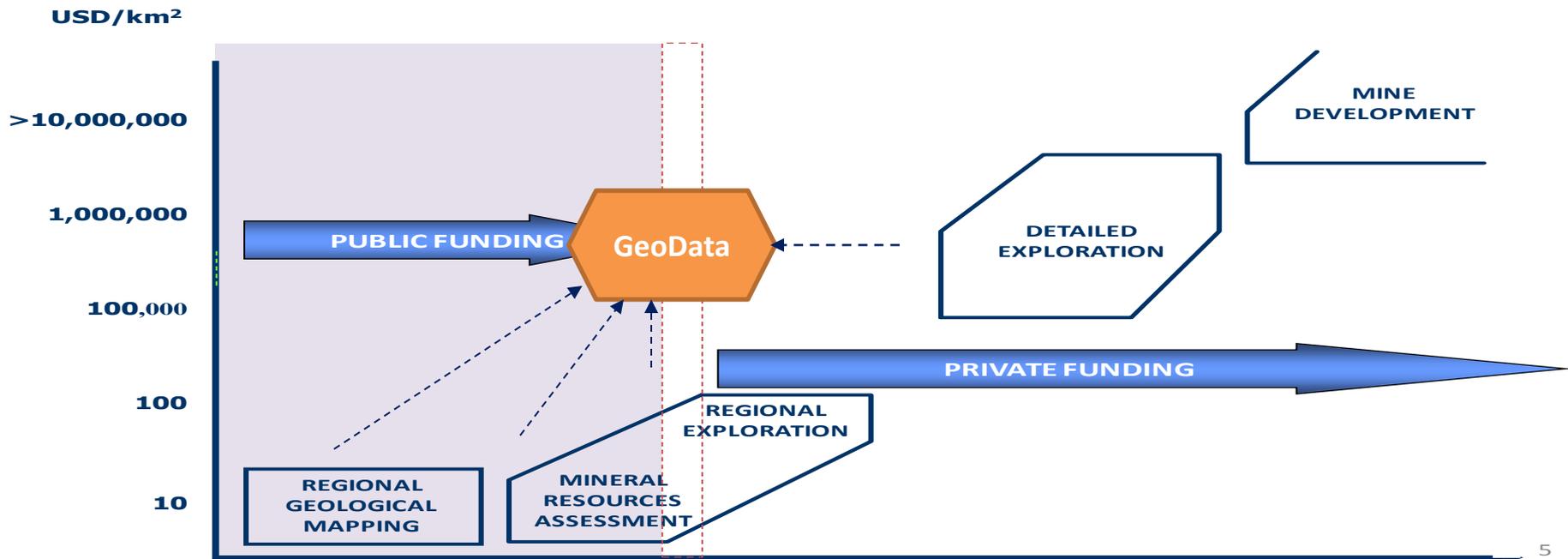
- Overview
 - Background
 - Vision and goals
 - Types of data
- Benefits
 - Delivery mechanism
 - Cost reduction
- Implementation
 - Commercial framework, governance and funding
 - Phases
 - Timescale
 - Partners

Background to this talk

- ❑ Mining in Africa has great growth potential
- ❑ Growth crucial to social and economic development
- ❑ Growth dependent, in part, on availability of high quality, relevant, public geo-scientific data (geodata)
- ❑ Earlier studies show serious problems in obtaining the right geodata – acts as a disincentive to investment and planning
- ❑ AMGI is major initiative to put things right:
 - Accelerate and cost reduce the exploration process
 - De-risk the investment
 - Improve competitiveness and transparency
 - Maximises benefits to States (avoids asymmetrical advantage)

Effective leveraging of natural resources helps fuel sustained growth and development.
Adequate Geo-data is needed to stimulate resource exploitation.

Pre-Competitive Geodata

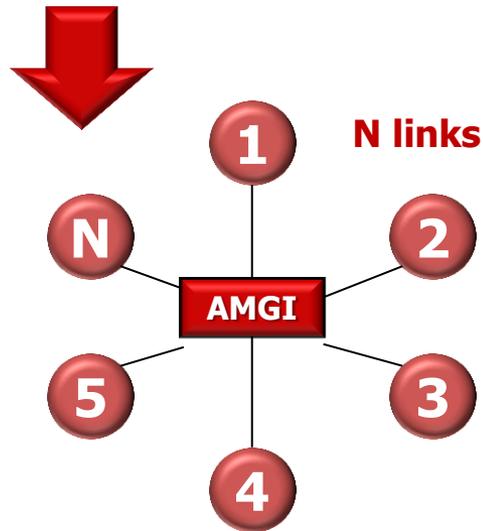
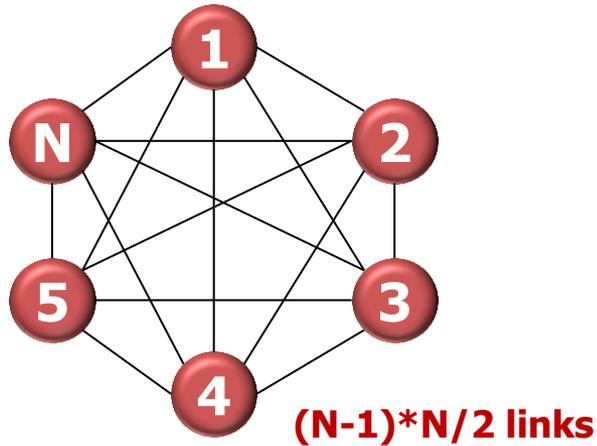


Costs in collection of geo-data (as a public good) is largely a function of the quality, quantity and type of data collected; long run pay-offs deter some governments/geological surveys.

The problems

[varies by country, but include ...]

- ❑ **The “right” geodata do not exist**
 - Existing data are old, poor quality, inappropriate scale / resolution, analogue, not trans-boundary, etc.
- ❑ **Geodata exist but are difficult to obtain**
 - In European archives for inspection only
 - In African government bureaux but difficult and costly to get access / copies
 - Only available “under-the-table”
- ❑ **Geodata existed but are now lost**
 - Copies in contractors offices but restricted by copyright
- ❑ **No mechanism for trading “private” geodata to enhance the knowledge pool**
 - Little incentive for spec data
 - Much data lost with licence relinquishment



Today :-

Multiple, inefficient data sources

AMGI aims to be :-

“A single, secure, complete on-line store of digital data which has been re-interpreted in an homogeneous way to form a GIS database with access controlled by entitlement”



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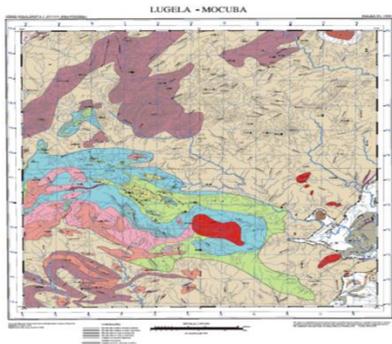
AMGI will

- Recover / repatriate, re-condition and where necessary re-interpret existing relevant* public geodata
- Ensure data integrity and geo-database homogeneity
- Ensure safe repository for new and existing geodata
- Enable data trading, where appropriate
- Deliver data cost effectively to owners and end-users
- Promote data release for investment attraction and value add services

* *Geo-data used by industry, in order of preference, are large scale geological maps, airborne geophysics, mineral occurrences/prospectivity summary, cadastral information and geochemical survey data*



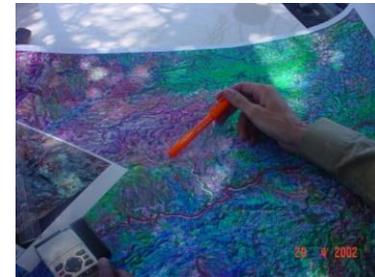
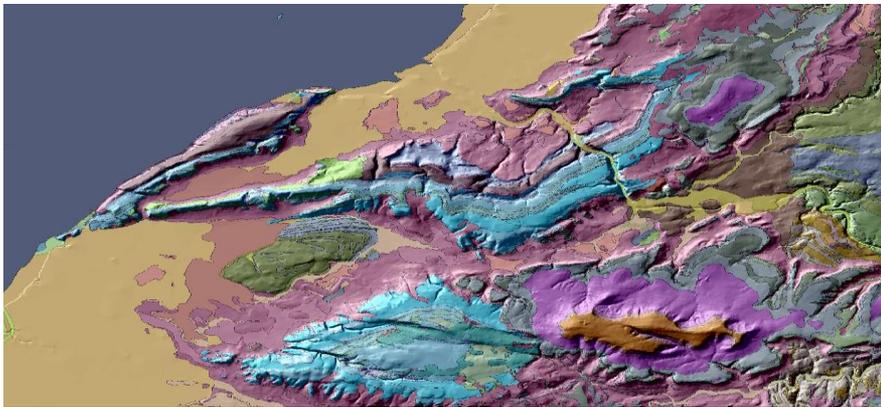
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	30°E	30°E	30°E	30°E	40°E
10°S					1
12°S			3	4	5
14°S			10	11	12
16°S			17	18	19
18°S	24	25	26	27	28
19°S	35	36	37	38	39
20°S	46	47	48	49	50
		57	58	59	60
		65	66	67	68
		70	71	72	73

Modern 2-D geological mapping - Mozambique
 1:250k scale,
 World Bank funded, BGS/NGU, 2005

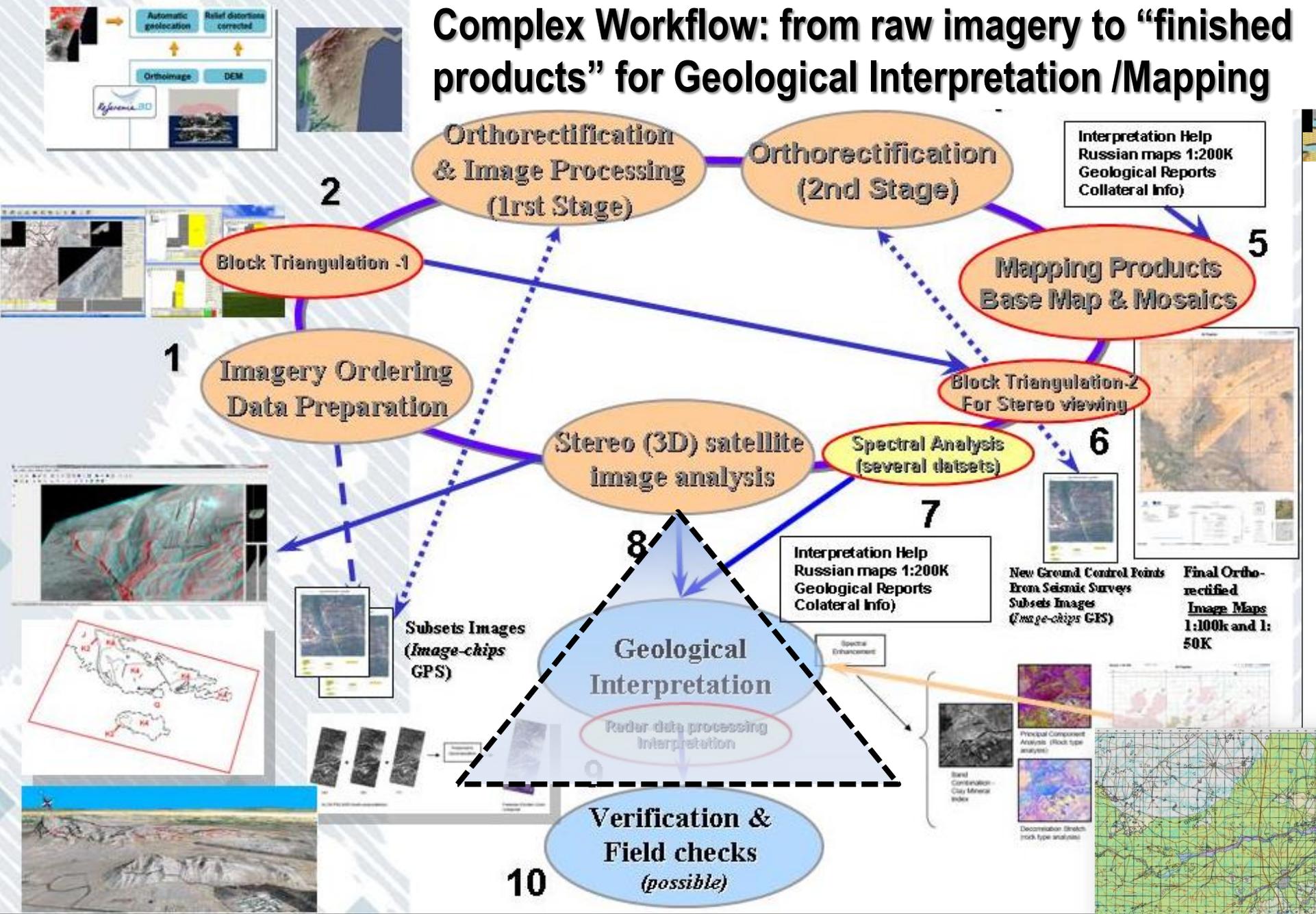
Pseudo-3D : geology draped on terrain model



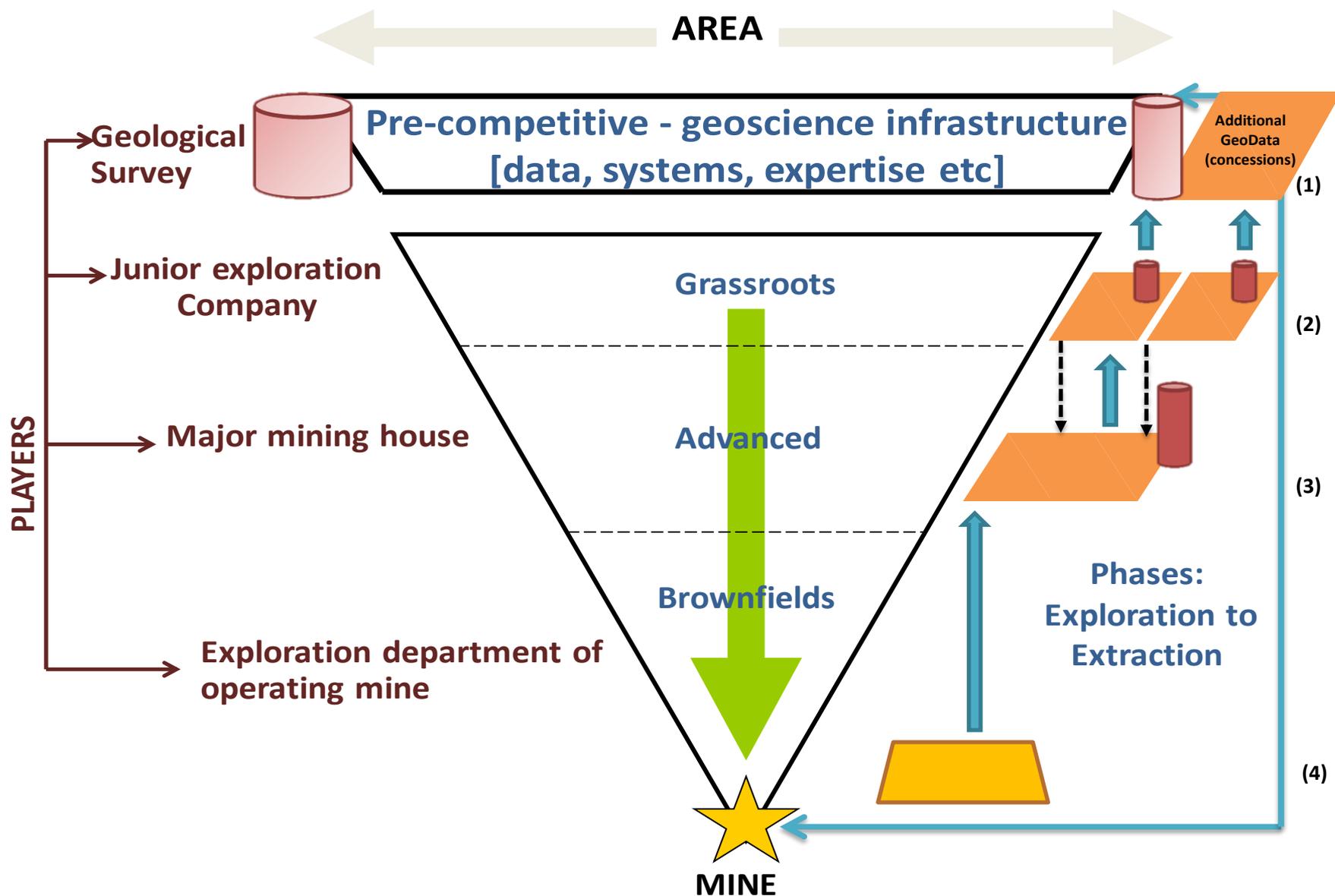
Full 3D : Virtualis Geovisionary

Geological interpretation with draped satellite imagery on a terrain model

Complex Workflow: from raw imagery to “finished products” for Geological Interpretation /Mapping

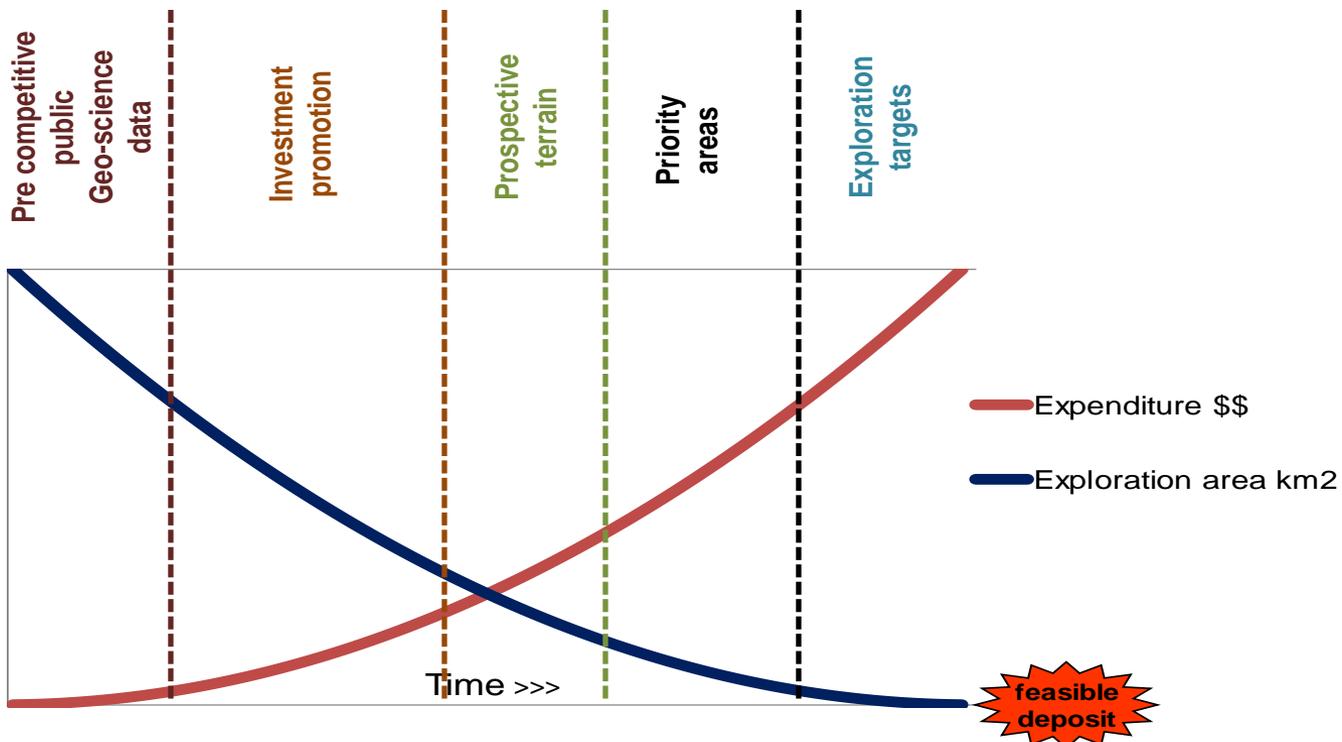


Players and phases from Exploration to Exploitation

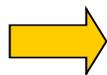




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GSOs / public sector (developing economies)



Mining Industry / private sector

GSOs (US, Can, Aus)



Mining Industry / private sector

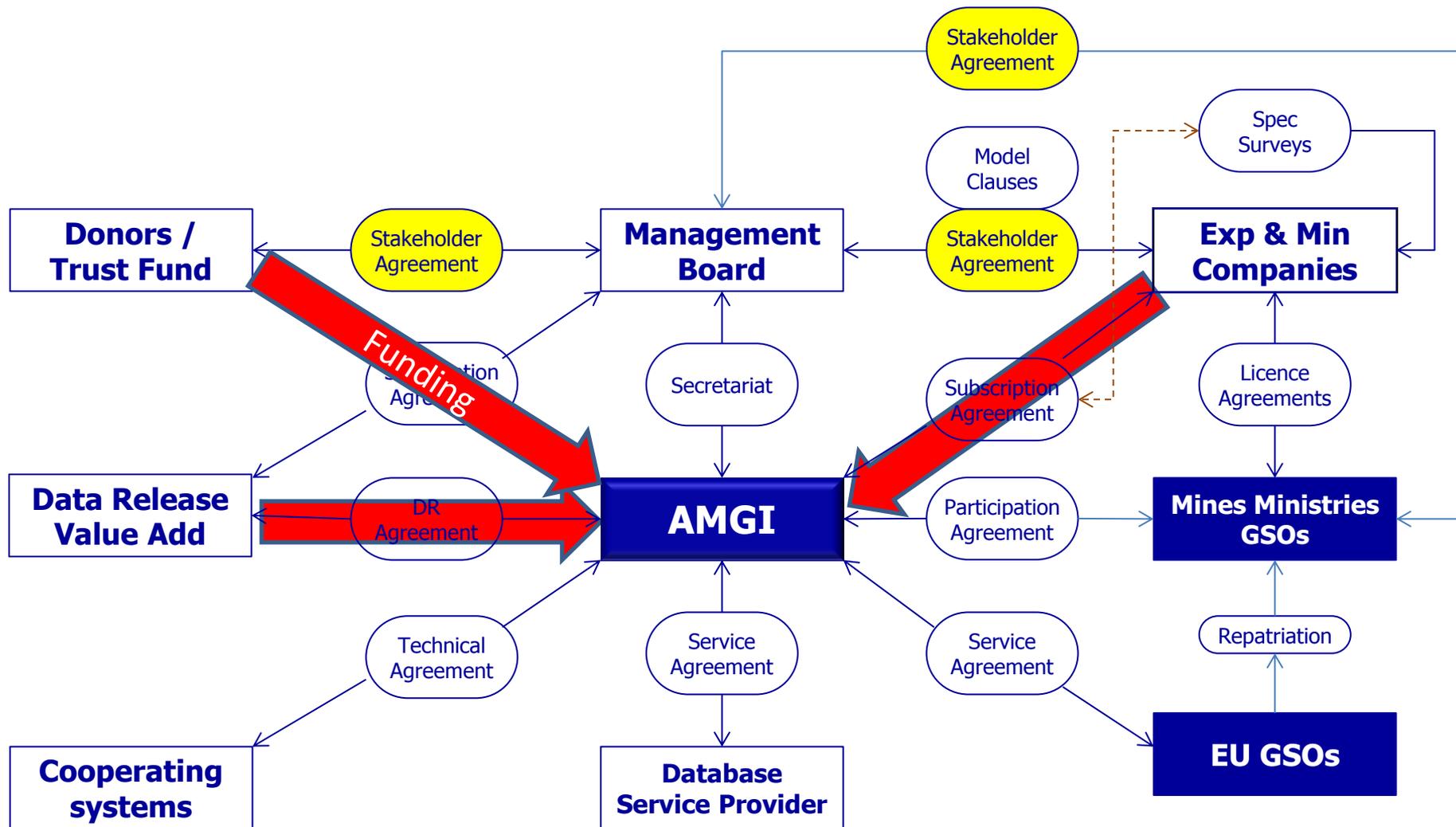
Oil Ministry



Oil and Gas Companies / private sector

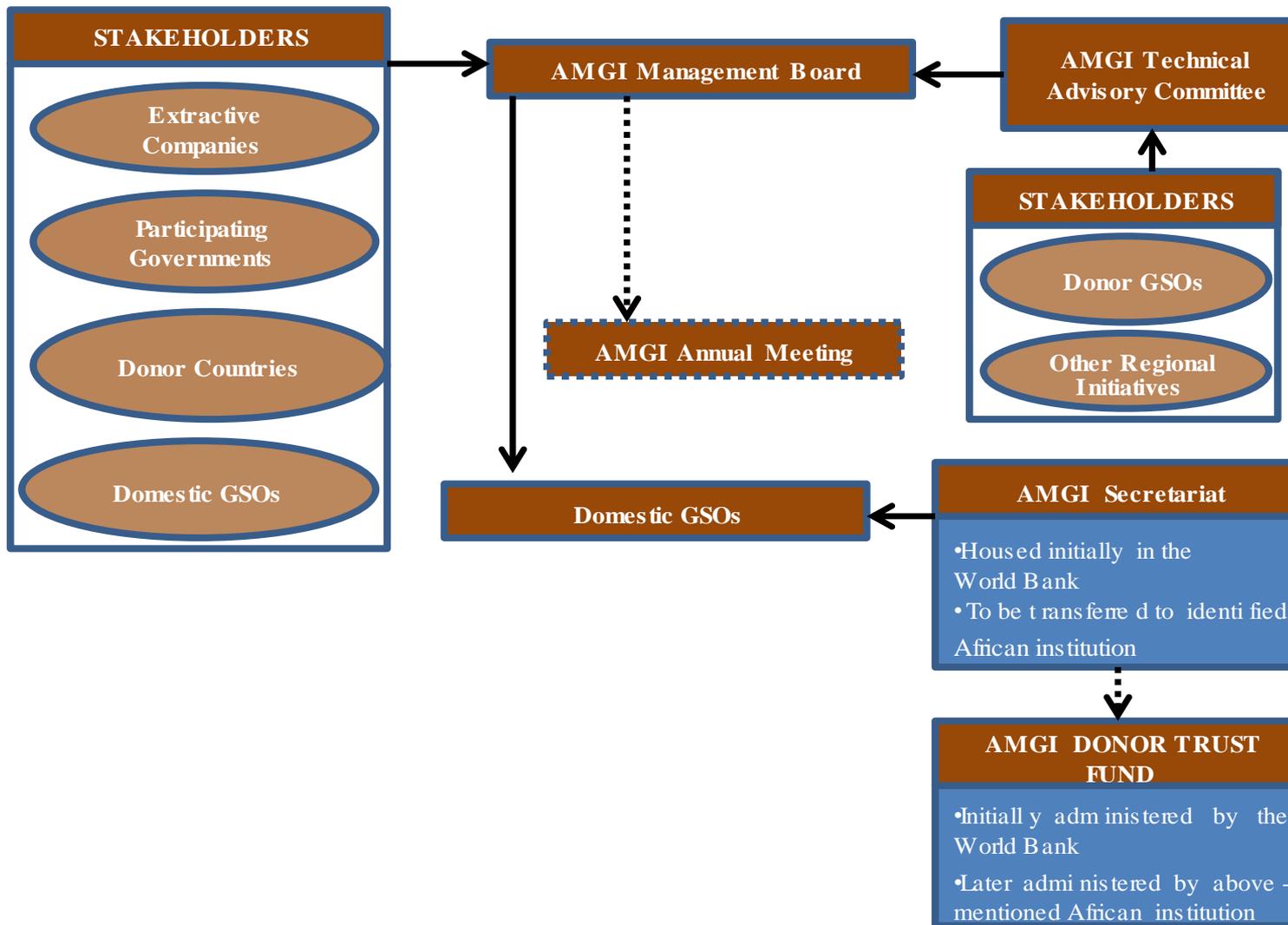


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Operating features

- Cloud based storage; GIS primary interface, geodatabase homogeneity & interoperability, high bandwidth access (free or fee)
- Recovery of geodata from ongoing and future mining concessions
- Platform for data trading – public to private; private to private; private to public
- Plug and play interfaces to DR/VA companies and parallel systems
- Donor funded for set up; long term self sustaining
- Full stakeholder involvement



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Implementation

- Design reports by June 2013
 - Phased implementation plan
 - Charter of technical and business rights and obligations
 - Role of Secretariat and related Boards and Committees
 - Technical and legal issues for Cloud Server
 - Evaluation of financial model towards sustainability
 - Definition of basic technical requirements and necessary steps for a common geodatabase schema design, integrating foundation data plus new or re-interpreted geological information.
- WB and other donor funding for first 3 years
- Lead countries / lead data sets selection
- EuroGeoSurveys commitment (most members) to release / repatriate archive data
- Cooperation links being established with AEGOS, One-Geology etc
- Stakeholder feedback requested to influence system design



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GeoMOOSE 2.6 - Windows Internet Explorer

http://edit.africamuseum.be/geco_website/geco_webgis/htdocs/geco.html

GeoMOOSE 2.6

WebGIS portal v2.0

Identify Search Clear Selection

Jump To: [dropdown]

Catalog

- GECO layers
 - Geographical features
 - Hydrology
 - Mining industry
 - Main mining sites
 - Mining sites
 - Informal mining activities
 - Copper mining sites
 - Copper smelting plants
 - Copper deposits
 - Copper trading posts
 - Cobalt mining sites
 - Cobalt smelting plants
 - Cobalt deposit
 - Cobalt trading posts
 - Copper-cobalt mining sites
 - Copper-cobalt smelting plants
 - Copper-cobalt deposits

Map data ©2013 AfriGIS (Pty) Ltd, Google

X,Y: 2865814, -1680017 Lat, Lon: -14.920, 25.744

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GeoMOOSE 2.6 - Windows Internet Explorer

http://edit.africamuseum.be/geco_website/geco_webgis/htdocs/geco.html

Google

Favorites BGS International Webmail

GeoMOOSE 2.6

Page Safety Tools

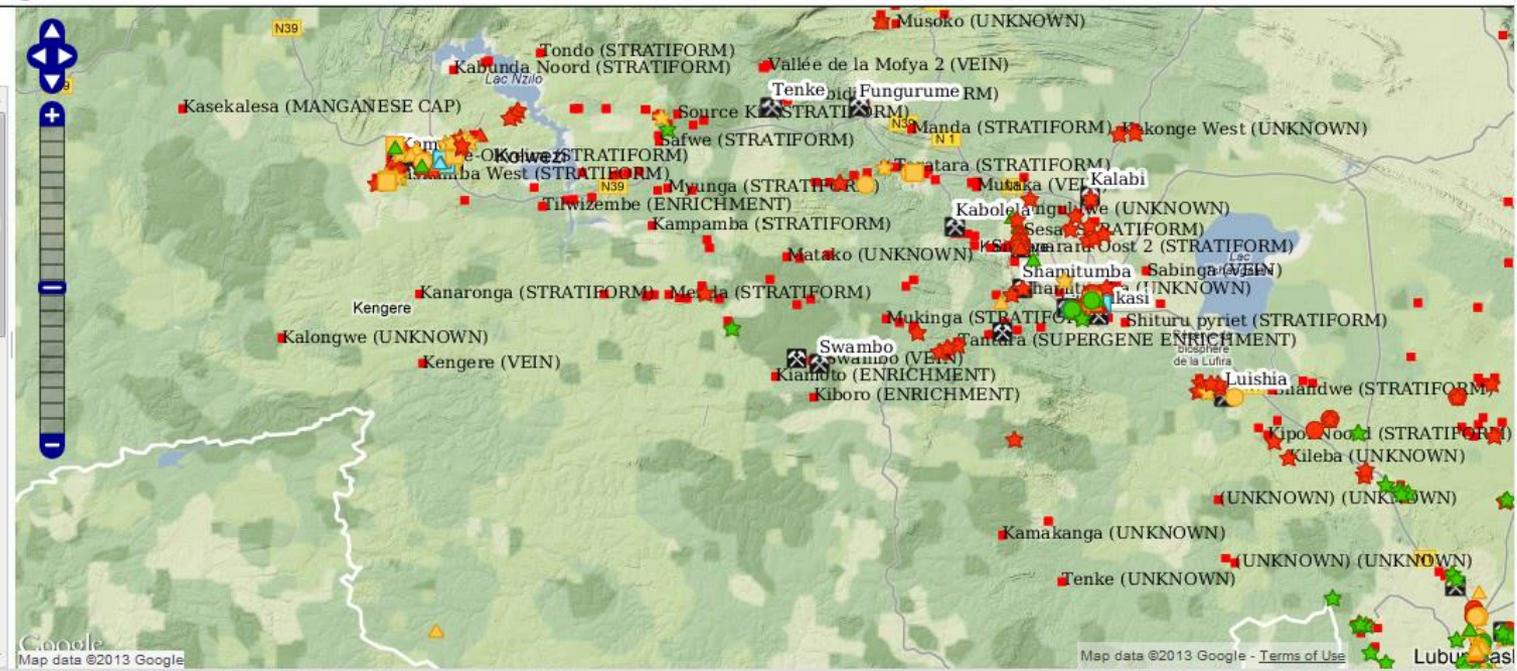
GECO WebGIS portal v2.0

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Thank you

Feedback, Discussion, Q&A

Further information from / comments to:

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