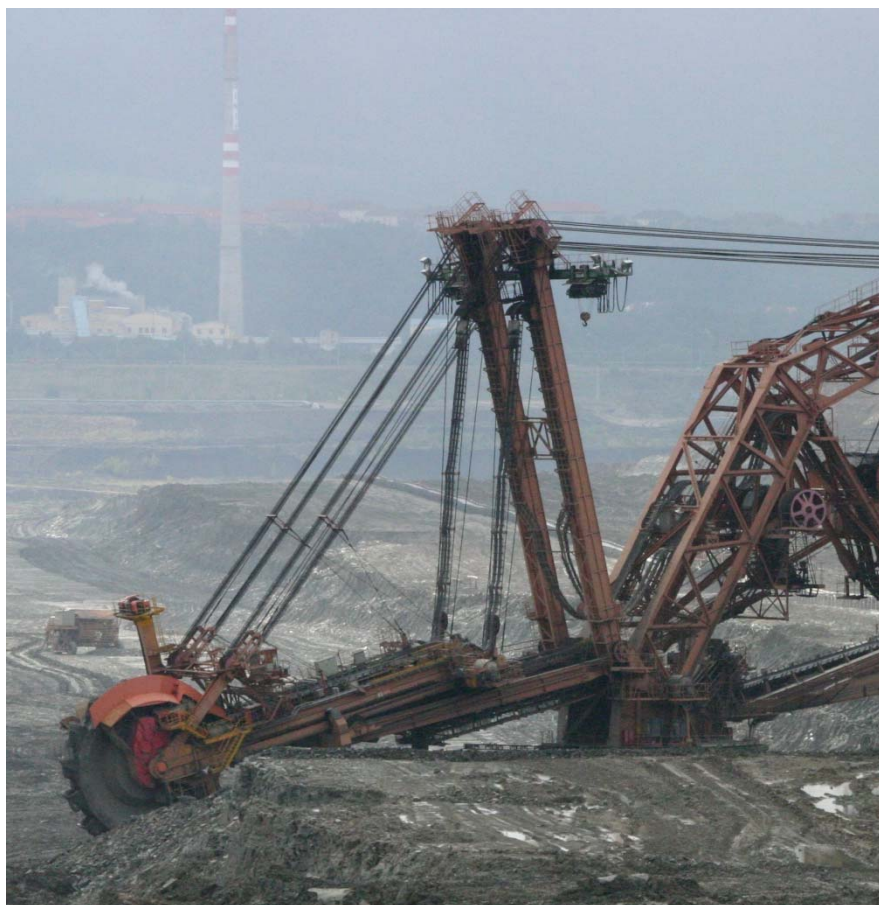




European Technology Platform
on Sustainable Mineral Resources

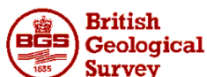
EO-MINERS



Earth Observation for Monitoring and Observing Environmental and Societal Impacts of Mineral Resources Exploration and Exploitation

*WP4 on-going work & planned activities
3rd Management Committee Meeting
Nottingham, July 6 -7, 2011*

Professor Stuart Marsh
Head, Geoscience Technologies
British Geological Survey



www.eo-miners.eu

1) Work completed

- 4.4 GEO-related activities have continued
- 4.2 Conceptual model: Witbank urban sprawl
- 4.1 & 4.3 Technical work delayed as awaiting key inputs from several other work packages

2) Current Activities

- To be defined during this meeting

3) Difficulties and solutions

- Scheduling in light of above delay

4) Planned activities next 6 months

- To be defined during this meeting

- Attended the GEO Work Plan Symposium from the 4th-6th of May 2011 in Geneva
- This included session on the Energy SBA that covered the place of Minerals in GEO
- Continued to lobby for Minerals topic to be included in the GEO 2012-15 Work Plan
- Commented to that effect on Version 0
- Version 1 has just recently been released for review by GEO Principals...

THE GLOBAL EARTH OBSERVATION SYSTEM OF SYSTEMS



- Explore the integration of spaceborne, airborne and ground-based EO datasets into mature, EO products
 - e.g. InSAR integration with GPS and levelling data, to give absolute measurements of ground motion, delivered a format engineers are happy to use...
 - e.g. Hyperspectral mineral mapping integrated with field-based spectroscopy and geochemistry to give pollution measurements that meet industry needs...
 - e.g. Exploit potential synergy between spaceborne EO, higher resolution airborne EO and the targeted installation of ground-based systems like ALERT

- Development of forecast and simulation models using EO products that describe various stages of the mining life cycle
- The IS@TEM system for model forecast and simulation to be developed as a demonstrator... a simulation platform, linked to a GIS for importing data and exporting results, enabling:
 - Dynamic display of the evolution of a given area, either in real time (simulation) or in offline time (post simulation)
 - Scenario management used for understanding evolution of interaction between social & environmental dynamics
 - Prospective simulation to help decision-makers evaluate & identify actions for sustainable resources management
- This will be tested using a pilot scale model; to be identified

- Development of mining & environmental observation systems through application of the EO products within the appropriate models and existing environmental and geoscience workflows
- Global Earth observation systems are typically characterised by well-integrated EO data that are then combined with well-calibrated models; the classic examples include:
 - Global Climate Observing System
 - Global Ocean Observing System
 - Global Terrestrial Observing System
- There is no such Observing System for the subsurface
- This Task will integrate the modelling component developed in Task 4.2, with the EO products from Task 4.1, in order to identify the main elements of a subsurface observing system that would be of wide use in the minerals sector

- Preparation of EO-MINERS products for longer term delivery as part of GEOSS, through definition of new GEO Tasks for inclusion in future annual updates of the GEO Work Plan...
- Review the existing GEO Tasks covering 9 societal benefit and 5 transverse areas in the GEO work plan 2007-2009
- Identify synergies or gaps between EO-MINERS and GEO
 - map mining and environmental observation systems into 9 SBAs
 - identify EO-MINERS contributions to existing GEOSS targets
 - define new, EO-MINERS activities in support of GEOSS
- Maintain a dialogue with GEO through:
 - the EU GEO Projects Workshops
 - membership of GEO Committees, especially Science & Tech
 - participation in GEO Task Symposia and other methods...