Reliable Information Management Systems – A Precondition for Mining Sector Development

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PDAC2013 International Convention, Trade Show & Investors Exchange - Mining Investment Show

DERA Deutsche Rohstoffagentur Bundesanstalt für Geowissenschaften und Rohstoffe

Germany's Role in Mineral Resources Markets
Toronto/ Canada
Tuesday, March 5th, 2013
11:30 a.m. – 11:40 a.m.

Introduction: Beak Consultants GmbH

- **Consulting Company for**
  - GIS & Database Development
  - Introduction of IMS in State Agencies
  - Mineral Exploration
  - Geology
  - Environmental Studies, Site Reclamation
  - Research & Development

- **Working on projects worldwide in**
  - Rwanda, Uganda, Ghana, Namibia, South Africa, Algeria, Morocco, Southern Sudan, Yemen, Mongolia, Kosovo, Albania
  - Partner of AEGOS

Introduction: Beak Consultants GmbH

- High quality standards: ISO 9001:2008 certificate
- More than 18 years of company experience
  - Beak International Inc. founded 1965 in Canada
  - Beak Consultants GmbH founded 1994 in Freiberg/ Germany
  - North American operations acquired by Stantec Consulting Limited in 2003
  - German operations refinanced as an independent company, retaining the rights to the name Beak
- Up to 35 years experience of employees
- Our roots are the former East German Geological Survey
- Currently 43 scientists and technicians


CERTIFICATE

TÜV

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certifies that

Beak Consultans GmbH
Am St. Niclas Schacht 13
D-09599 Freiberg

has established and applies a Quality System for

IT-Consulting, Data Bases, Geographical Information Systems, Ecology, Geology and Raw Materials, Contaminated Sites including Development

An audit was performed, Report No.

Proof has been furnished that the requirements according to

DIN EN ISO 9001 :2000

are fulfilled. The certificate is valid until July 2004

Certificate Registration No. 12 100 14474 TMS

Beak Consultants GmbH: Freiberg/ Sachsen

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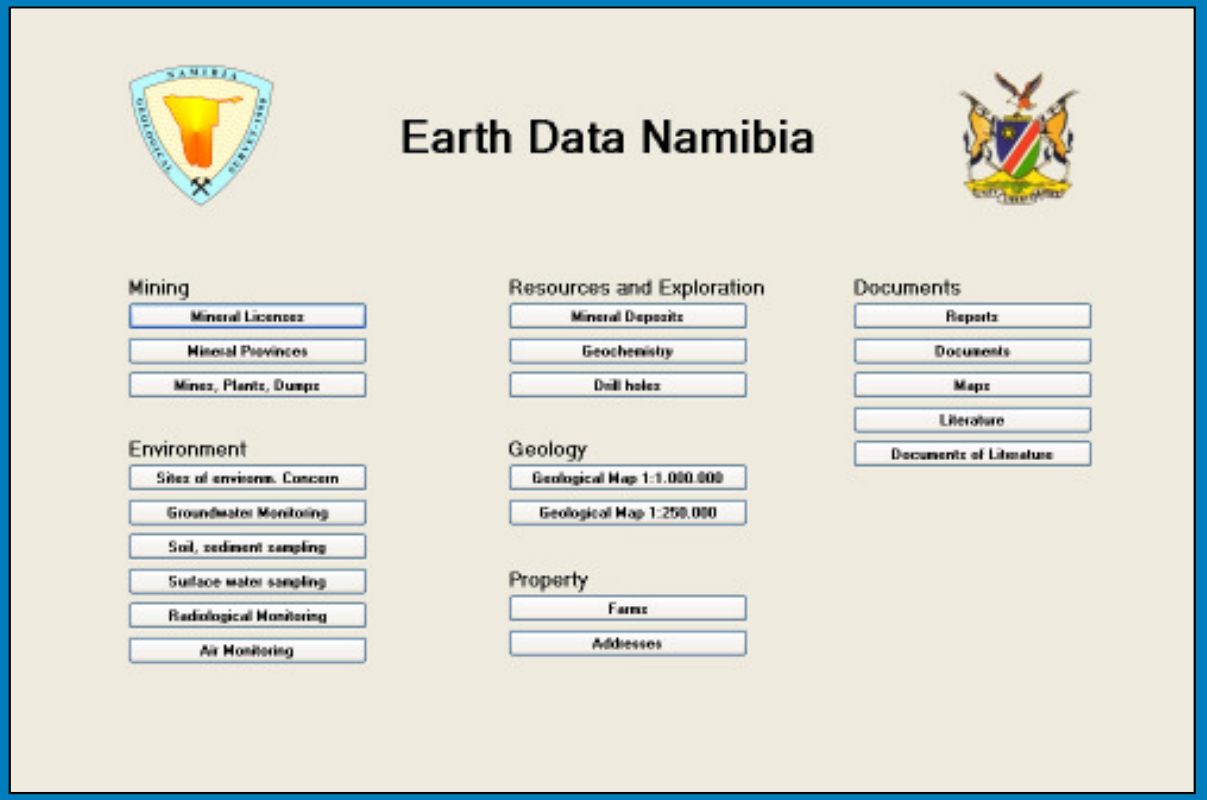
Agenda

- **Prerequisites for Mining/ Mineral Sector Development**
- **National Information Management Systems (IMS)**
  - Tasks
  - Characteristics
  - Implementation
  - Components
- ***Case Study***
- **Conclusions**



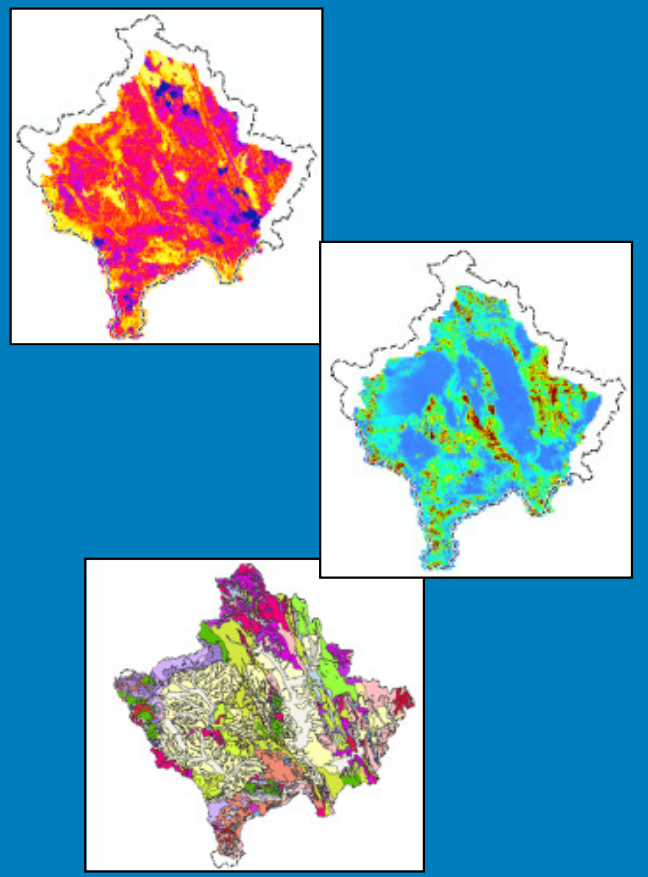
Data = Money ?

- ***Preconditions for Mining Sector development***
  - **Mineral prospectivity**
  - **Investment**
- ***How to attract investment ?***
  - **Provide investment security**
    - Political & economic framework,
    - Policies for taxes, royalties,
    - Mining legislation,
    - Infrastructure, labour, …
  - **Provide information, make data available**
    - What data is available ?
    - How can I get this data ?
    - How much is the data?
    - What format is the data in ?

→ ***How to make data available ?***

Available Data = Money !

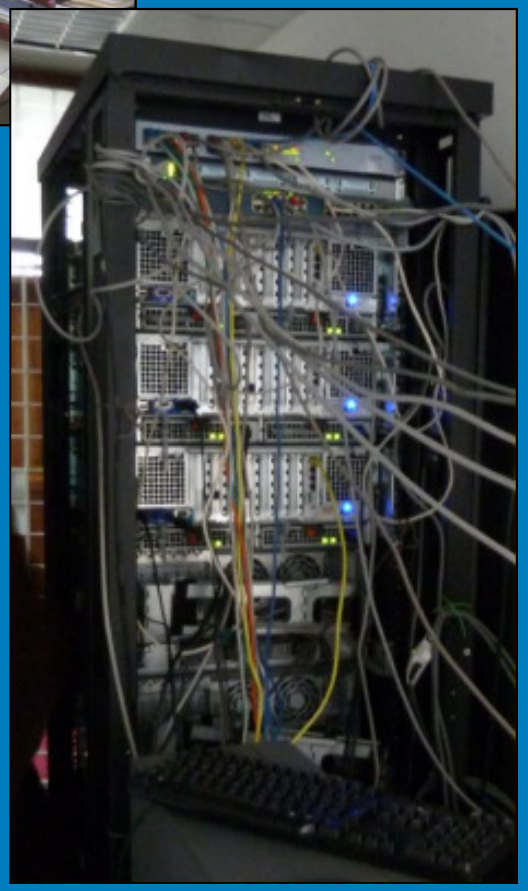
- **Billions of Dollars** were and are still spend for investigation of mineral resources → Creation of **data**
- Management and use of **data** is key issue:
  - for creation of new values and benefits
  - for attraction of investment
  - for solution of national planning tasks:
    - infrastructure,
    - land use, protection of the environment,
    - geo-hazard prevention etc.
- Best **instrument** for fast and organised **dissemination of good data**:
  - Information Management Systems (IMS)



→ **Available Data = Money**

Reality: Without IMS our data ≠ Money

- We have lots of data
- We have modern information technology
- We have excellent personnel



But

- Data Is not used as it could be
- Many (potential) users are not aware of the existing data
- We are trapped in a jungle of information

– Existing data could bring more benefit

→ **Information Management System** required for data storage, management and provision

→ **<u>Prerequisite for Mining Sector development</u>**

Tasks of National IMS

Information Management System (IMS):

- Manage the existing and a fast growing amount of new information
  (minerals, mines, documents, drill holes, analytics, concessions, …)
- Prevent loss of information
- Provide for high quality of data
- Guarantee security of data
- Guarantee easy and fast availability of data

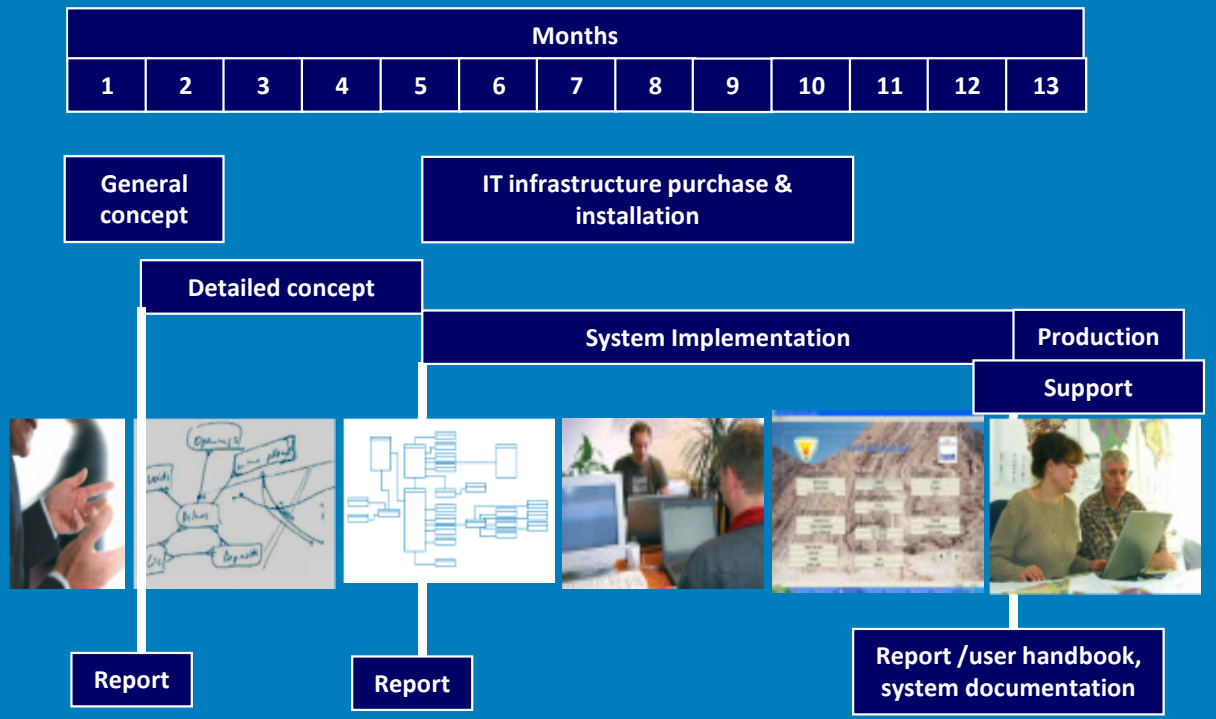
Main Characteristics of a National IMS

- Have important data „on stock“
- Manage data independently from the further use
- Standardise data structures and coding
- Having data ready for distribution
- Separate the data storage from the applications
- Handle services to capture and store data as a national on-going task and not as a project related issue

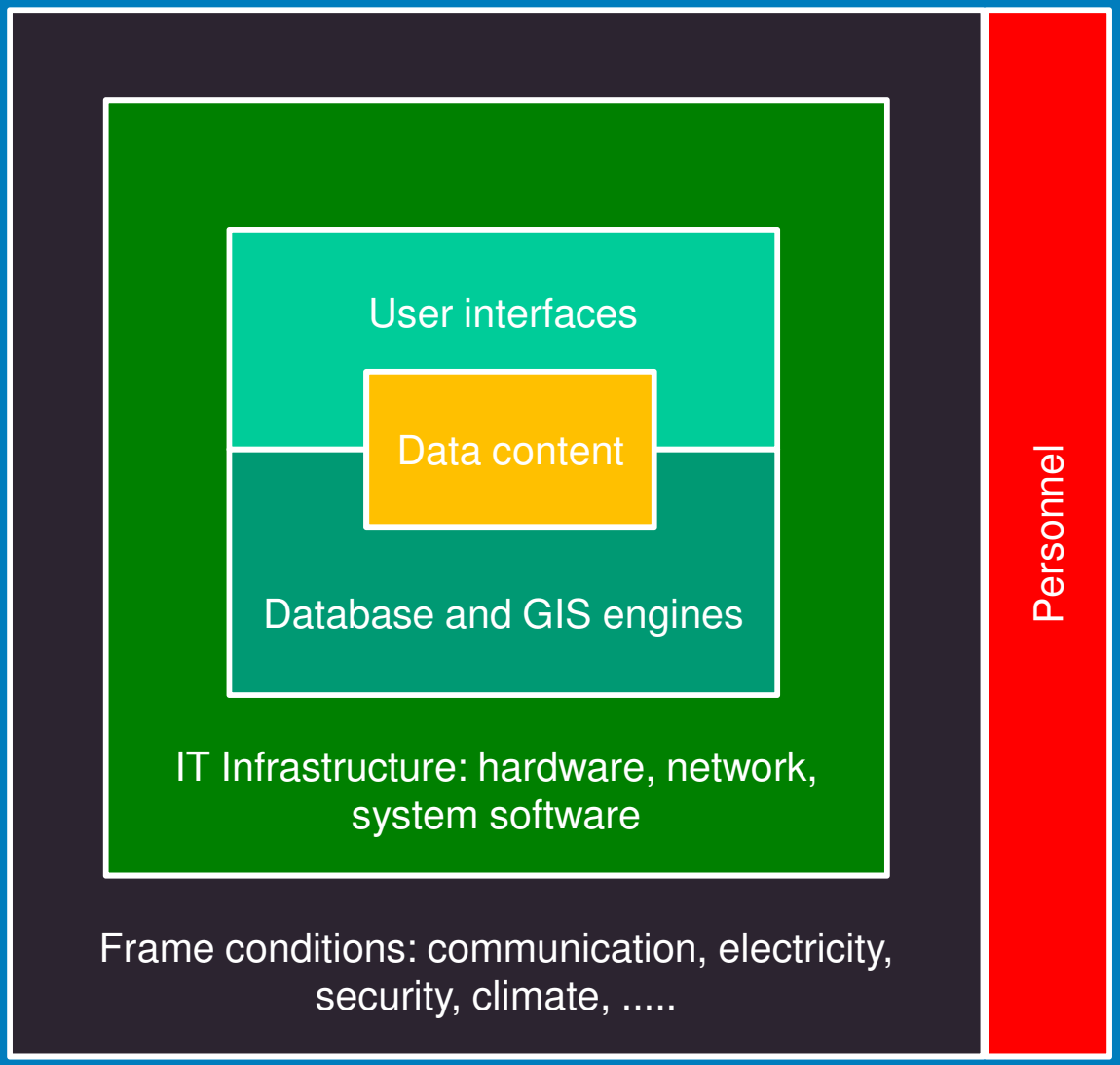
Implementation of a National IMS

How to start and run a Modern IMS sustainable ?

- Implementation and data capture are time consuming and expensive
- System must be supported permanently
- Qualified staff is required
- System life time (infrastructure, interface) is comparable short: 5 – 8 years
- System requires clear procedures and policies
- System must become a daily working instrument



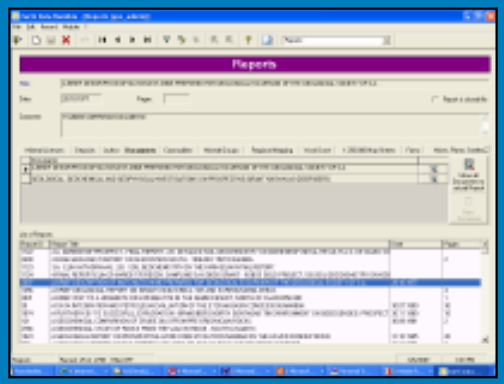
Components of the IMS

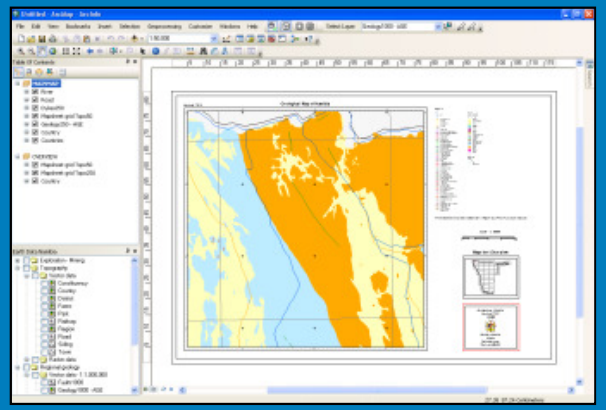


Important Features of Comprehensive Modern IMS

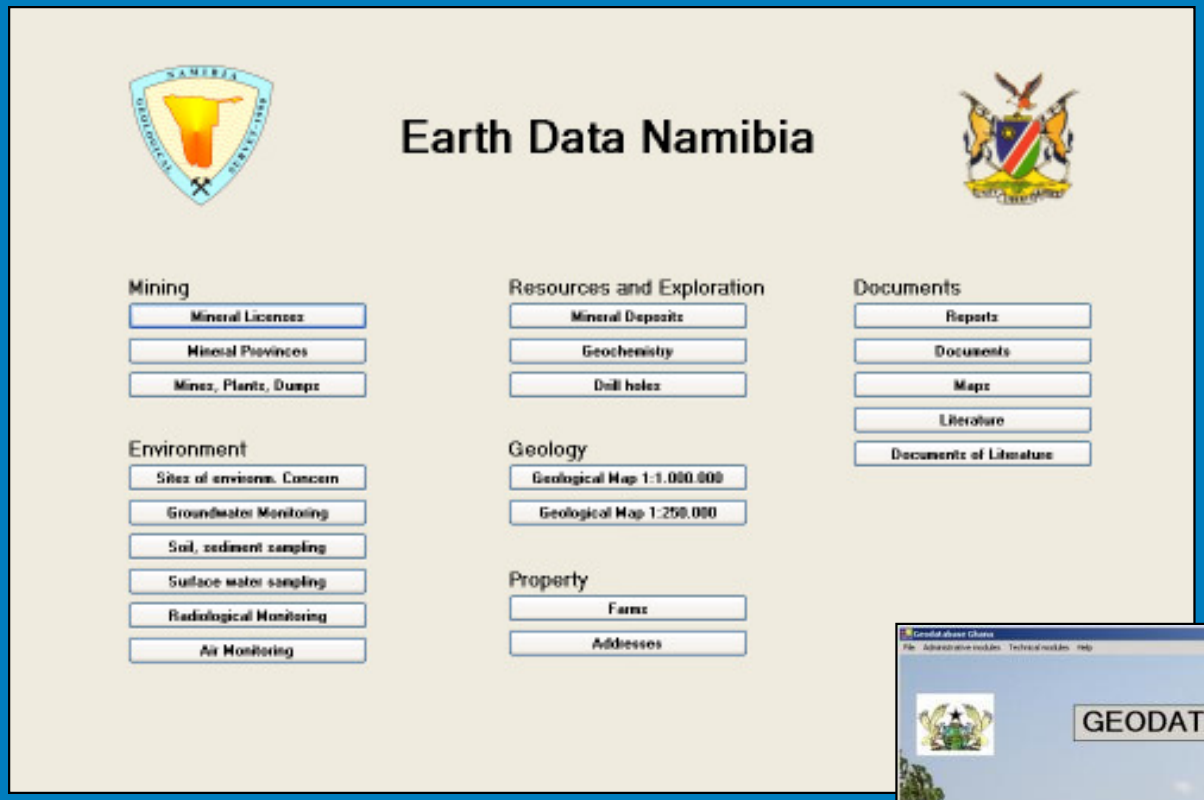
- Network like data structure
- Integration of data and metadata
- Import and export interfaces
- Use of standards

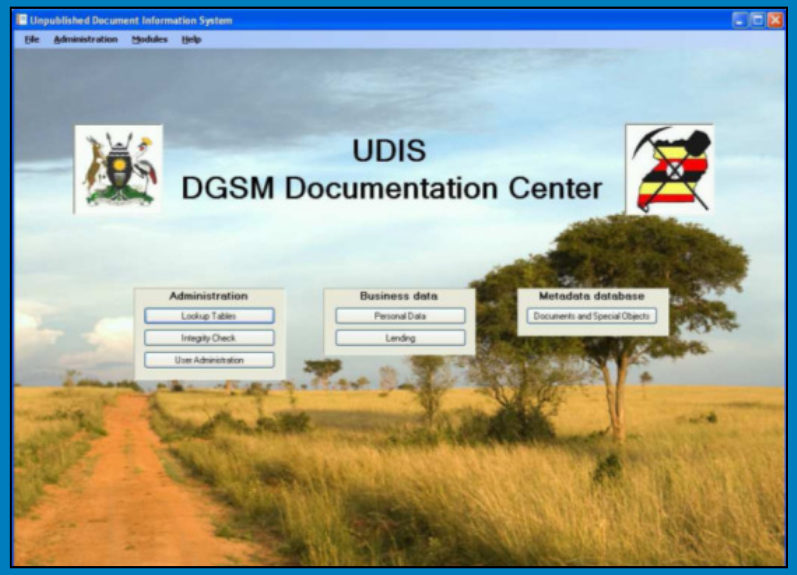
- User friendly (Windows Style) interface design
  → **Graphical User Interface**
- Integrated viewer for spatial data
  → **GIS**
- Access/ distribution via Internet
  → **Website**



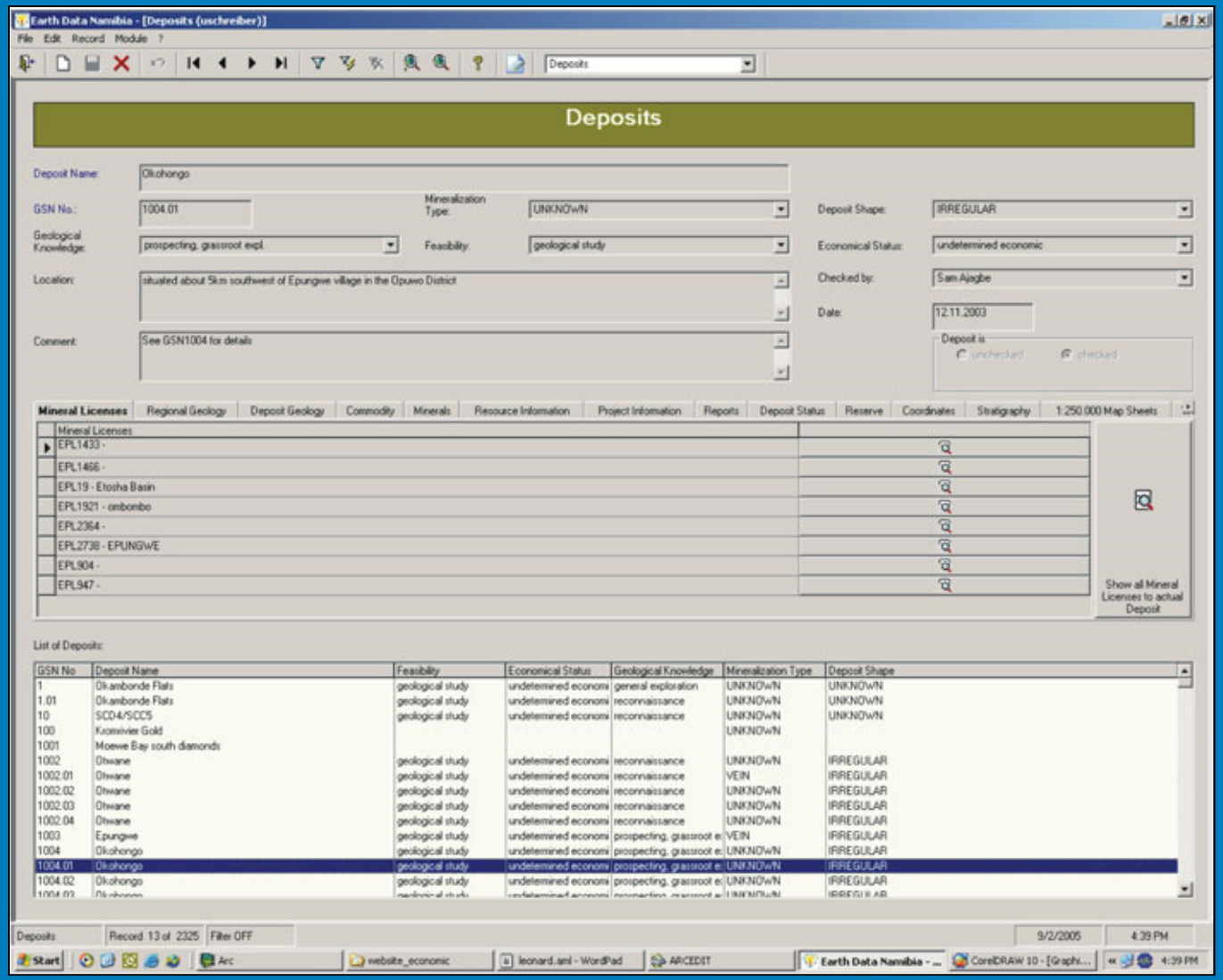


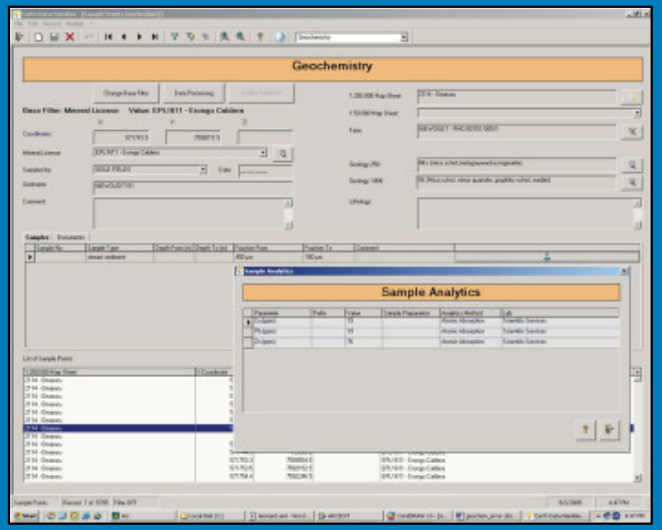
Software Impressions of Modern IMS: Graphical UI

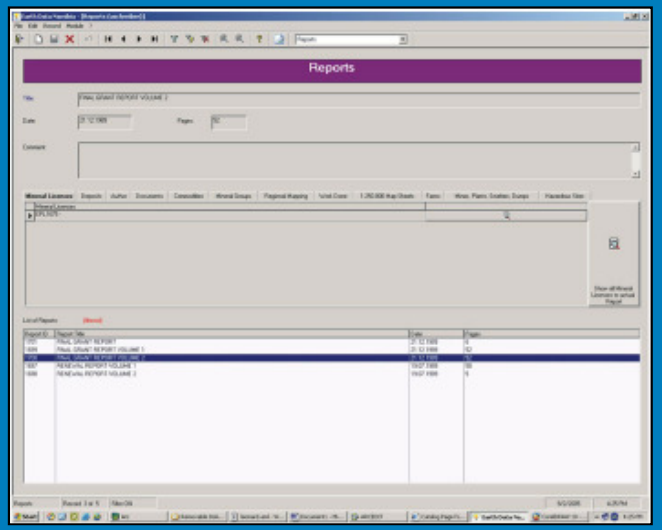




Software Impressions of Modern IMS: Modules







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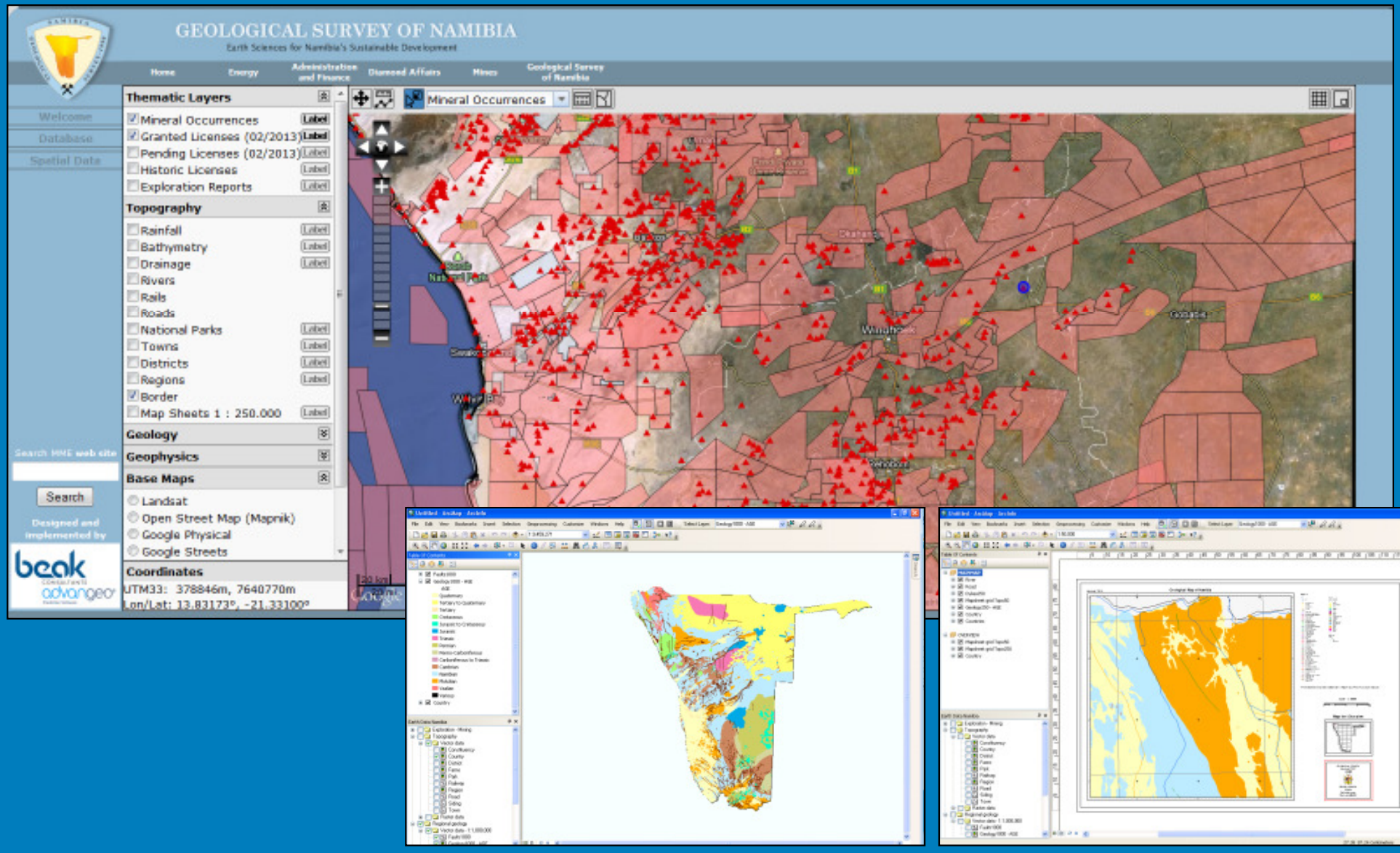
Software Impressions of Modern IMS: Interactive web GIS



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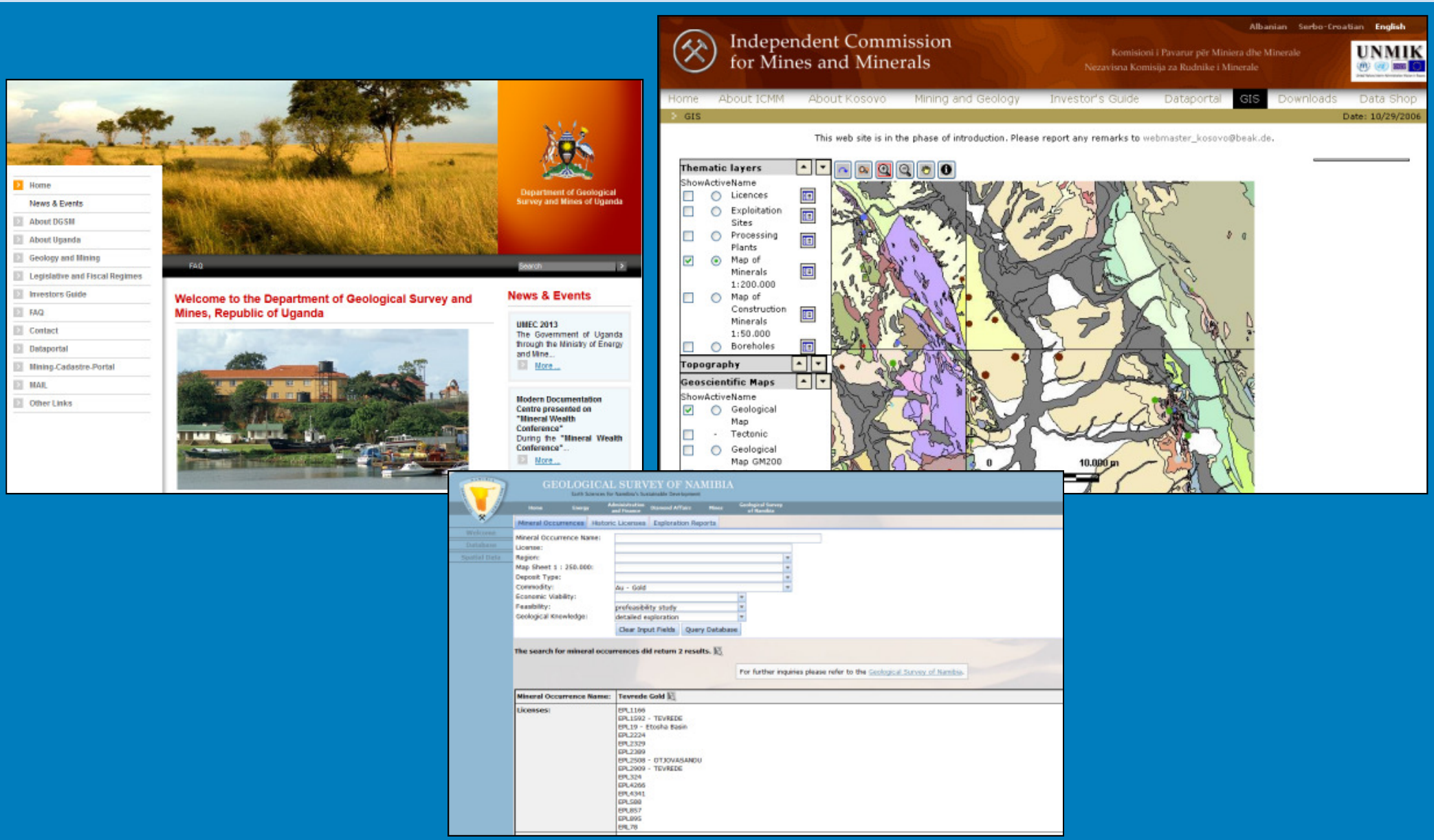
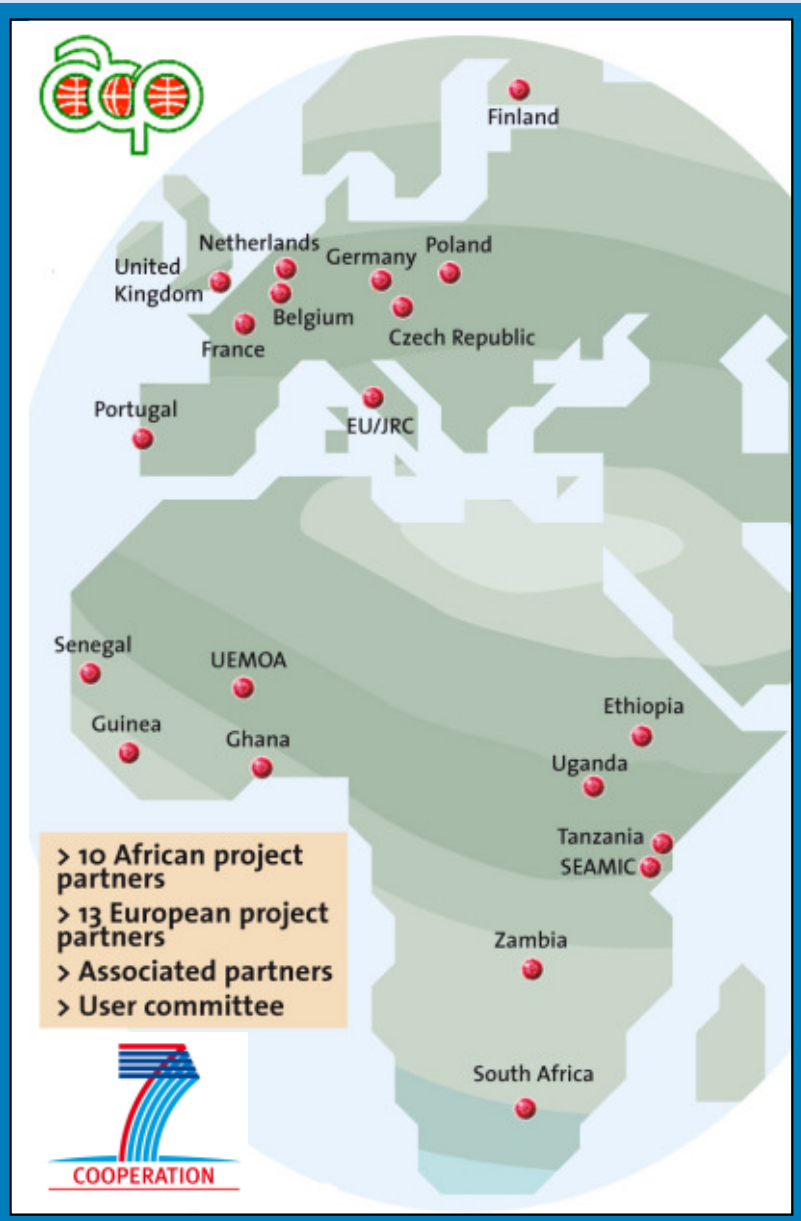
Software Impressions of Modern IMS: Website



Case Study: Overview

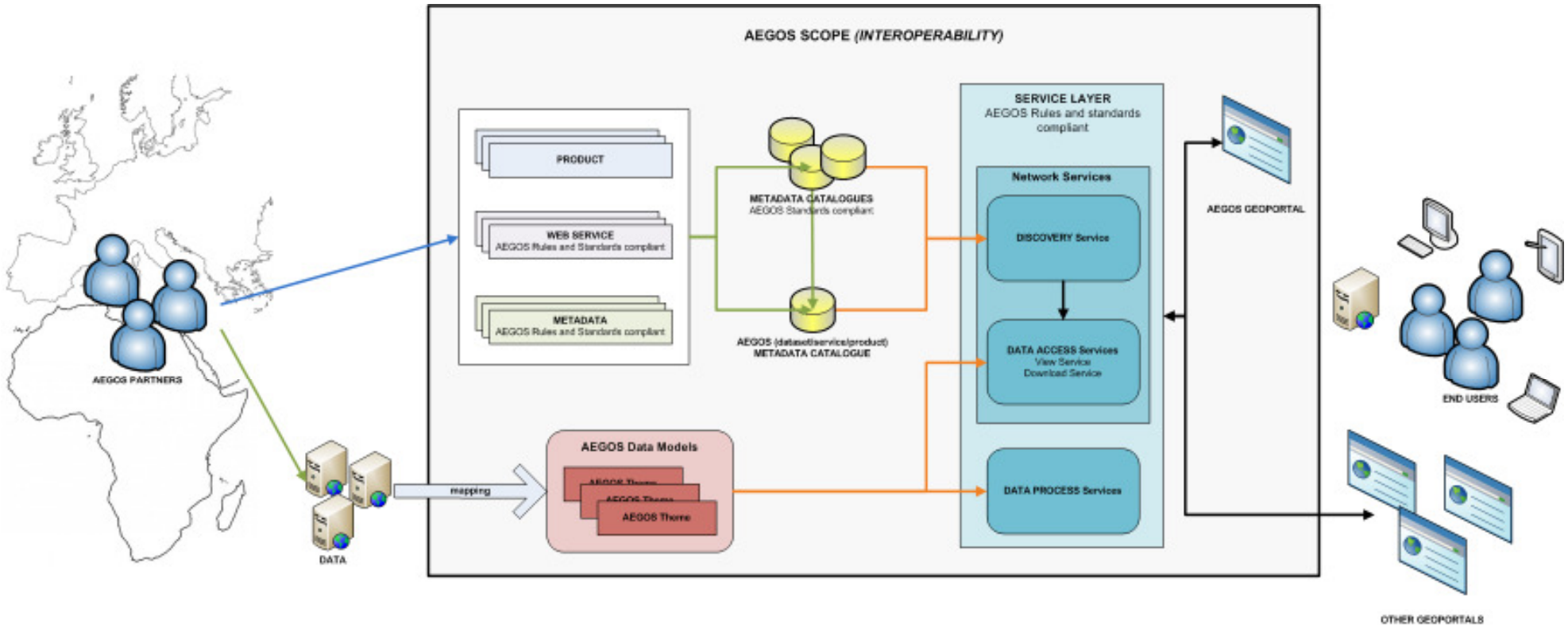


- **Preparation Phase** (2008-2011)
  Design of a multi-national georesources observation system

- **Main Targets**
  Institutional decision-makers, investors, geoscientific communities and education

- **Partner**:
  - Europe:
    - 9 Geological Surveys
      BGS, BRGM, BGR, CzechGS, GTK, RBINS-RMCA, PGI, TNO, INETI
    - 1 Consulting Company
      Beak
    - 3 International Organizations
      CIFEG, IRD, JRC
  - Africa:
    - 8 Geological Surveys / Schools
      CGS, DNG, GD-SOM-UNZA, GSD, GSE, GSM, IRA, MMI
    - 2 International Organizations
      SEAMIC, UEMOA

Case Study: Infrastructure



Metadata on-line
Data (on-line and off-line / e-AEGOS)
Products (on-line and off-line)
Services (customised)
Capacity building

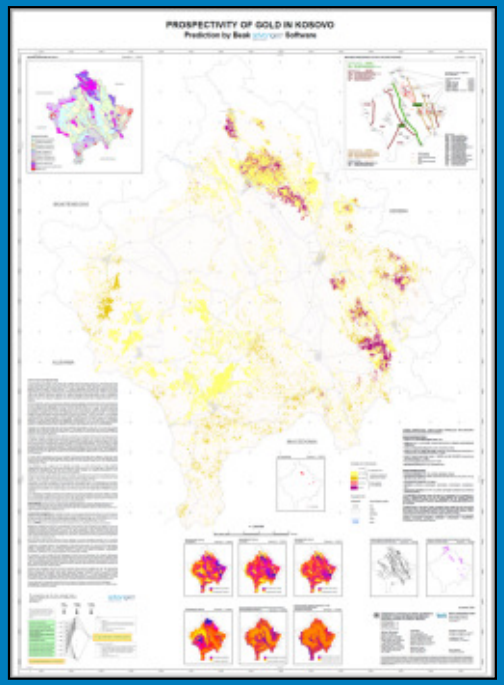
Conclusions

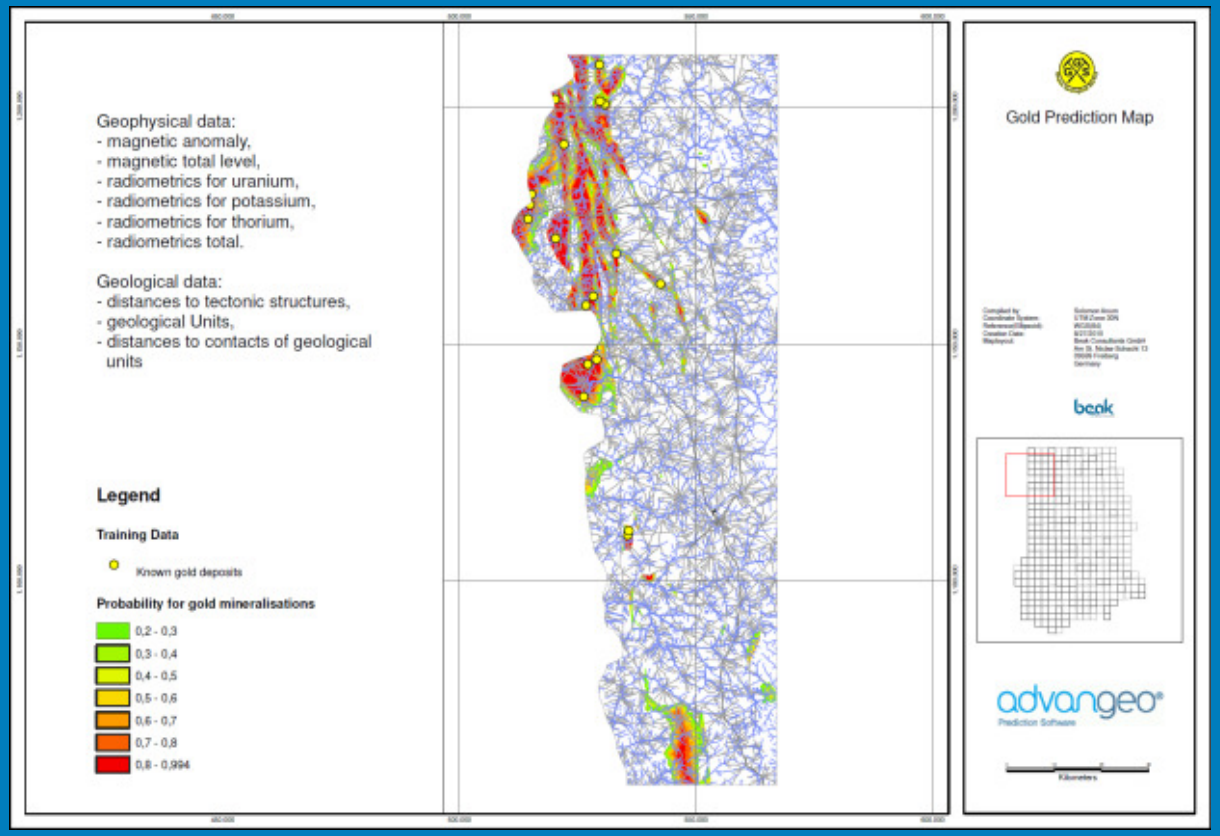
- Implementation of IMS is a strategic issue
- It creates preconditions for Mining Sector development

→ only IMS allow sustainable storage, management, dissemination and provision of good data

→ <u>Attraction of investment</u>

→ **Available Data = Money**





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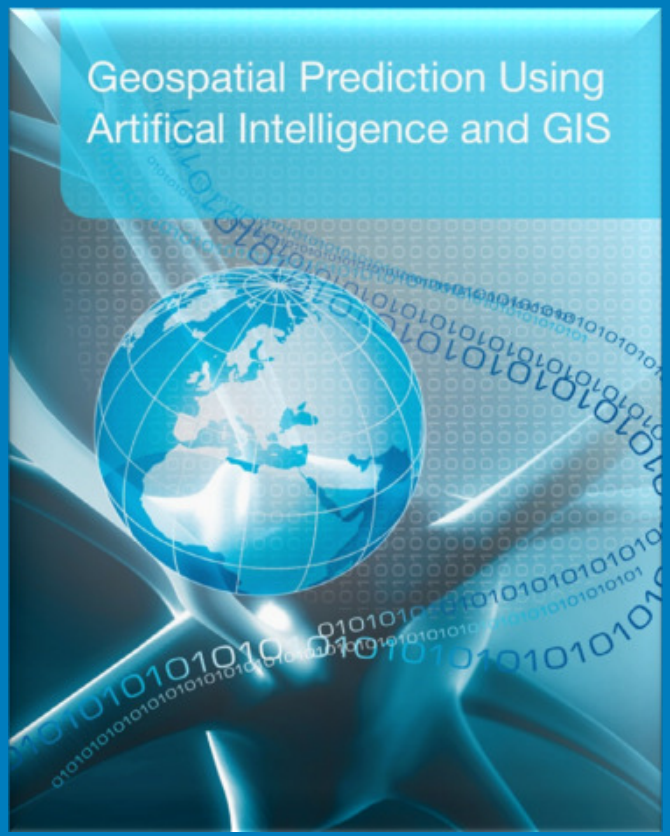

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