### GEM Advanced Magnetometers Company Presentation

Our World is Magnetic.



#### www.gemsys.ca



### **GEM Systems Inc.**

• **World leader** in developing and producing geophysical equipment for mineral exploration, focused **exclusively** on magnetic technologies (scalar quantum systems)

- Established in 1980
- The headquarters and production lines are located in Ontario, Canada
- We have a wide range of distributors of our equipment all over the world





### **GEM Systems Success**

- **Development** of **top technologies** with the highest standards of sensitivity and absolute accuracy
- Strong Technical and Service support
- **Customers** in more than 150 countries all over the World
- **Focus** on what we do best develop magnetic instruments only
- Continually work on improvement based on GEM innovation & customer feedback



### **GEM Systems Magnetometers**

### **Applications**:



- Mineral Exploration (Airborne and ground surveys)
- Near Surface Geophysics
- UXO
- Magnetic Observatories
- Earthquake Research
- Volcanology
- Archaeology
- Scientific Research



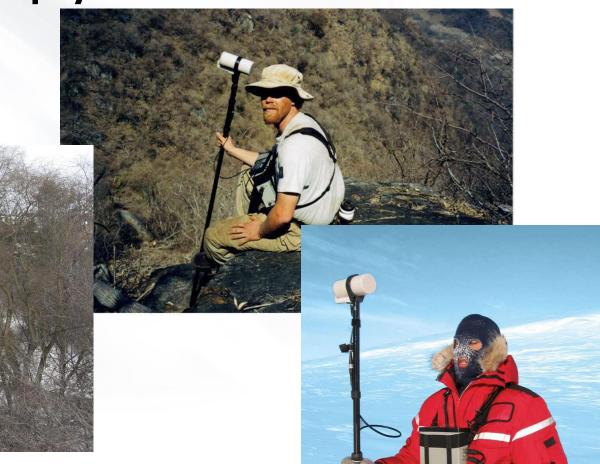
#### Mineral Exploration



"Quantec Geoscience has used GEM's advanced magnetometers for many years to assist in the discovery and delineation of economic ore deposits."



#### Near surface geophysics





#### Magnetic Observatories

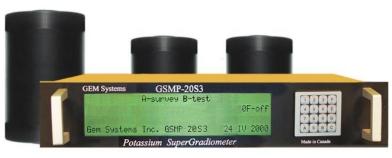


"The US Geological Survey uses GEM Systems magnetometers at **all** of its Magnetic Observatories. We are very happy to have such an accurate, reliable magnetometer"

Alan M Berarducci, USGS.



#### Earthquake Research and natural hazard monitoring Uaxaca - México

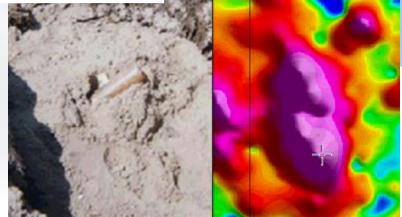








Concrete bunker



10 sensor Airborne

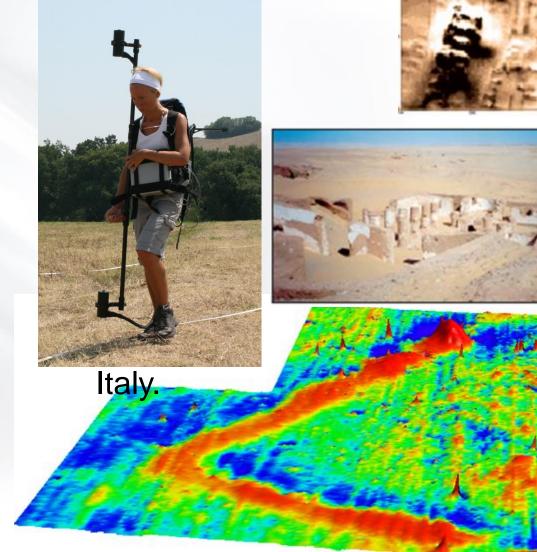
Artillery shell 0,5 m



### Archaeology



Egypt. Archaeologist Dr. Tatiana Smekalova





- Airborne and ground systems (mobile and stationary)
- Proton Magnetometers Gradiometers
- Overhauser Magnetometers
  Gradiometers
- Potassium Magnetometers Gradiometers





### **GEM Systems' Equipment. Walking Proton Magnetometers / Gradiometers**



- High sensitivity 0.15 nT @ 1 Hz
- Memory for 5 million readings
- Programmable base station (Daily and Flexible scheduling; Immediate start mode)





### **GEM Systems' Equipment. Overhauser Magnetometers / Gradiometers**



The new technology provides :

- 0.022 nT @ 1 Hz sensitivity (Optional 0.015 nt @ 1 Hz)
- High gradient tolerance
- Minimum heading errors
- "Clean" geophysical signal
- Ultra-Fast operation
- High absolute accuracy
- Ability to combine Magnetometer / Gradiometer / VLF / GPS positioning



### **GSMP-35 Version 8.0 Potassium Magnetometers** / Gradiometers for Ground Exploration

The best instrument for mapping of subtle geological signals

- Highest sensitivity at 0.0003 nT at 1 Hz
- Low power consumption up to 16 hours of continuous operation per charge
- Light weight and compact design
- Gradient tolerance 50,000 nT/m
- Fast sampling up to 20 Hz; Ideal high resolution surveys
- Integrated backpack: convenience and high productivity
- Proven reliability based on 28 years of R&D





# **Global GPS Options**

Enhanced GPS positioning resolution

- Standard GPS: <0.7m
- High resolution GPS Option:
  <0.6m SBAS (WAAS, EGNOS, MSAS)</li>
  <0.6m OmniStar (VBS2 subscription)</li>





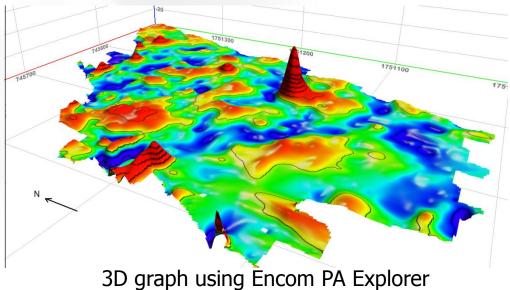


# **Software and Modeling**

End-to-End solution for:

- Transferring data rapidly to PC
- Applying diurnal corrections
- Visualizing data in 1D, 2D and 3D for quick quality control (QC)
- And first-level analysis
- Modeling single or multiple anomalies for Interpretation

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- THANK YOU
- GRACIAS
- OBRIGADO
- GRAZIE
- спасибо

