Objectives

The course is offered to KMS-820 customer to bring them to the proficiency level of acquiring, processing and interpreting 3D magnetotelluric (MT) data. The course is based on 18 years of teaching EM courses to industry and academia worldwide, customer equipment training and the experience of acquiring and interpreting several thousands of MT sites.

- Communicate scientific principles of magnetotellurics (MT)
- Data acquisition
- Equipment maintenance
- Field operations
- Data processing
- 1-dimensional, 2D and 3D inversion

The experience

- Hand-on in all aspects of the course
- Participants acquire their own data in their own field area
- Design their own survey layout
- Process the data and interpret it in 1D, 2D and 3D using commercial inversion software

The material

- Software for all exercises will be provided
- All software is available for use via a WebApp or on the participants' laptops
- as licensed standalone modules

AFTER course service:

- Customers can use KMS cluster on pay-as-you go basis and use the software themselves
- Alternatively, KMS provides web based services for processing & interpretation to course participants
- KMS provides customer access to support web, which has useful hardware and software information

Requirements for customer

- Customer selects focus objectives (Geothermal, hydrocarbon, Earthquake prediction etc.)
- Up to 20 participants with their own laptops
- Class room with fast internet connection
- Field test site and KMS-820 array system

Target audience:

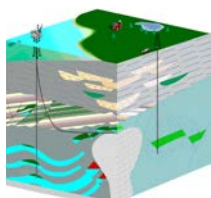KMS-820 array acquisition system customer with basic geoscience experience

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Related documents:

- **KMS training courses**
- **KMS-820 array system**
- **Course website**
- **Course references**

CUSTOMER BENEFITS:

- **Fully trained staff**
- **Post training support**
- **Web based processing & inversion afterwards**

KMS Technologies

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Content

The course is based on KMS training program given around the world since 2010. (see KMS website Training Courses). We have added equipment training and field demonstration together with commercial 1D and 2D inversion software plus 3D modeling and inversion training from Consulting-Geo.com.

Here is a sample course outline:

SAMPLE training outline

Week 1: EM Lectures & Exercises

Mornings	EM lectures: Methods & physics, processing & inversion, survey design, case histories, logging & monitoring.
Objectives:	Provide understanding of EM methods and their differences as applied to specific problems leading to optimum value extraction
Afternoon:	Team assignments and software exercises supporting lecture material and allowing participants design their own survey.

Week 2: KMS-820 array system for magnetotellurics & field work

Mornings	Lectures on MT background, acquisition, processing, 1D, 2D & 3D inversion of acquired field data
Objectives:	Detailed MT training of equipment with concurrent acquisition of data
Afternoon:	Field data acquisition and hands-on exercises

Week 3: Field data interpretation & field work

Mornings	Processing and quality control of acquired data leading to inversion.
Objectives:	Participants process their own data and improved data acquisition.
Afternoon:	Data interpretation

Lecturers include: KMS staff (T. Hanstein, M. Smirnov, K. Strack), Consulting-Geo staff (M. Meqbell)
See KMS website for biographies

References

The EM course has been taught 26 times between 2002 and 2018 at universities and industry in the following countries: Australia, China., Germany, Kenya, Malaysia, India, Saudi Arabia, Thailand, Turkey, USA.

Background are standard textbooks and a course website which has many references papers for course participants.