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- DESIGN 
- MANUFACTURE 
- INTEGRATION 
- MAINTENANCE 
- RESEARCH & DEVELOPMENT 



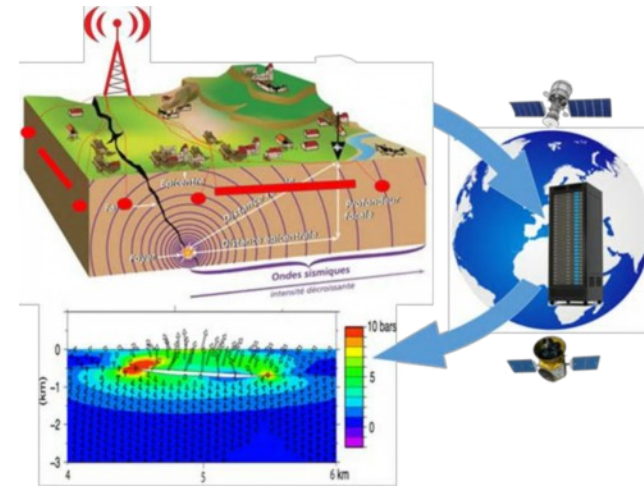
**THOMAS**  
TECHNOLOGY HUB FOR ONE MARKET SOLUTIONS



# MIRZA - Tiltmeter System for Geophysical Monitoring



MIRZA is an innovative tiltmeter system for the monitoring of ground deformation from naturally active zones (faults, volcanoes, hydrosystems) and geological reservoirs

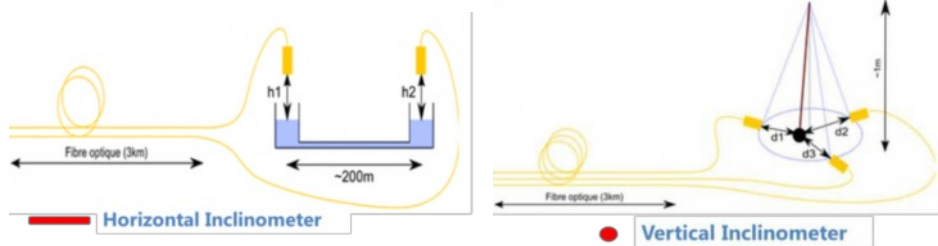


## Benefits of the system

- Optical measurements (Nano-radians scale)
- Real-time acquisition (< 1s)
- Earthquake detection
- Great stability for long term monitoring (several years)
- Downhole installation for surface noise reduction
- Easy maintenance with surface signal processing
- Horizontal and Vertical instruments



- Laser Interferometry technology
- Free pendulum (vertical model)
- Hydrostatic leveling (horizontal model)
- Network deployment (fiber or wireless)
- Local Server with cellular communication
- Centralized data architecture
- Data fusion processing with GPS + InSAR
- Post-treatment of inverse problem using point source solution



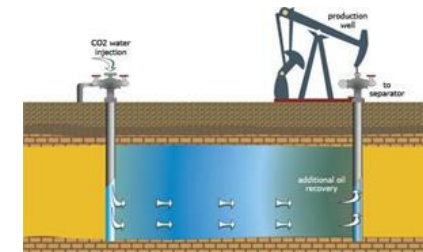
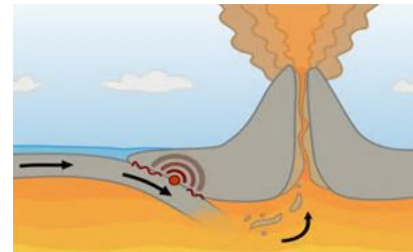
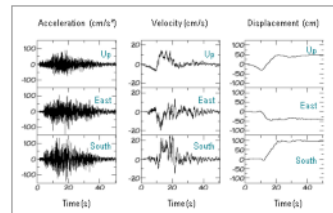
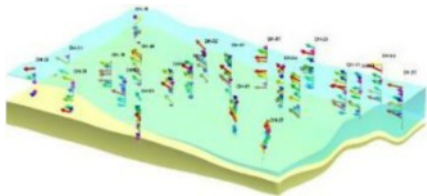
# MIRZA - Tiltmeter System for Geophysical Monitoring

## Software features & capabilities

- Visualization, logging and alert software (Cloud or client software)
- Loading of models for comparison with actual data (identification of the source of ground deformation)
- On-demand post treatment and analysis

## APPLICATIONS

- **Geosciences :**  
Earthquakes, volcanic eruptions, tsunamis
- **Operation monitoring & Risk assessment :**  
Oil & Gas, Reservoir storage, Geothermal fields
- **Assessment tools :** Unconventional drilling



### Technical partners



### Financial partners

