

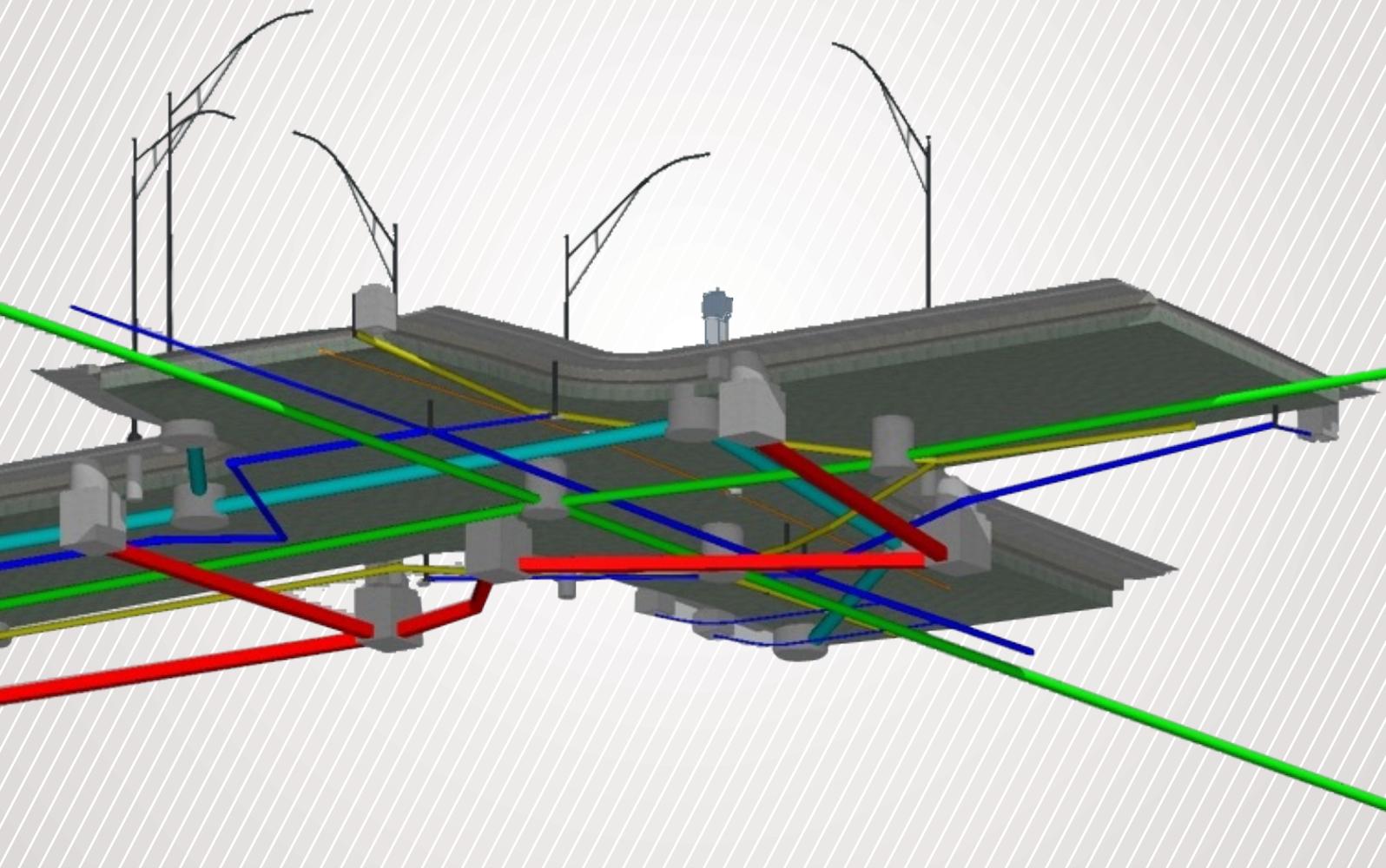
Training Workshop

# Subsurface Utility Engineering

Detection & Mapping of Underground Utilities

September 18-19, 2018, NAC Grounds, Cyberabad, Hyderabad, India

24 CPD Hours



Organized by:



Indian Society for  
Trenchless Technology



National Institute of  
Technology Warangal

In Association with:



Association of Consulting  
Civil Engineers (India)



National Academy  
of Construction

Training Partner:



AF Academy

## Introduction:

Having accurate knowledge of subsurface/ underground/ buried utilities (pipes/ cables/ drains etc.) is critical for any infrastructure project. The successful detection and mapping of buried utilities involves the combination of several techniques, the results of which are synthesized down to a single interpreted plot. The techniques and methodologies used will primarily depend upon the required outcome for the survey, the site conditions and the type of pipes or cables being targeted. Subsurface Utility Engineering (SUE) is an upcoming field dealing with procedure and standards for detection and mapping of underground utilities. The workshop comprehensively covers all the aspects related to conducting a successful underground utility detection and mapping project.



## Key Elements:

- Introduction to Subsurface Utility Engineering (SUE)
- Utility Quality Level Attributes
  - Quality Level D, C, B, A
- Steps and procedures for QL-D data collection
- Survey procedures for collecting QL-C data (including use of total station, DGPS etc.)
- Field Procedure and Approaches for GPR Surveys
  - Antenna selection, frequency vis depth
  - Various Antenna Configurations in various applications
  - Data acquisition, data handling
- Data Processing of GPR data
  - High pass, low pass filters, Ormsby bandpass filtering, Notch Filters
  - AGC, Move Out Correction, Terrain Correction, Migration, energy envelops
  - Time-depth conversion
- Data interpretation of GPR data
- Field Procedure and Approaches for EPL Surveys
  - Direct Connection Mode, Clamp Mode, Induction Mode
  - Choosing right frequency & locating in difficult cases
- SUE map preparation guidelines, including plan, L-section etc.
- Special session of SUE for HDD and Micro Trenching

## Benefits:

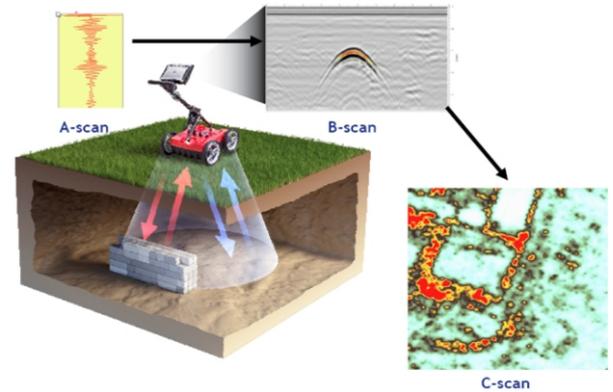
The program will benefit an individual or organization by helping in reducing risks and costs involved while meeting an existing utility unexpectedly during construction. The program will also help organizations plan towards creating database of existing utilities in their area (refineries/ plants/ urban/ public areas/ factories) for future reference/ expansion plans/ repair & rehabilitation. Similarly, the utility owners could create the composite as built asset map on a real location basis for their administration and management. There is an urgent need for capacity building in the field of SUE, and program will also help participants to pursue career in this field. Smart utility maps are prerequisite for smart cities, making this workshop very important for smart city planners.



## Who Should Attend?

This 02 day training workshop program will help professionals, engineers and managers from entire spectrum of construction, infrastructure and municipal sector, including but not limited to:

- ♦ Water, electrical, telecom, gas and other utility companies
- ♦ GIS companies
- ♦ Construction/ Infrastructure organizations, MES
- ♦ Trenchless companies
- ♦ Refineries/ factories/ plants
- ♦ Municipalities/ Municipal corporations
- ♦ Utility repair/ rehabilitation organizations
- ♦ Airport Authorities/ planners/ consultants/ contractors
- ♦ Highway authorities/ planners/ consultants/ contractors
- ♦ Environment consultants/ contractors
- ♦ Fresh engineers planning to pursue career as SUE engineer
- ♦ Engineers/managers conducting/supervising utility detection projects
- ♦ Smart city developers/ planners/ consultants
- ♦ Engineering College Faculty members involved with teaching & researches and project works related to urban/town & country planning/environmental/highway/traffic and other engineering disciplines
- ♦ Undergraduate/ PG students pursuing urban/town & country planning/ environmental/ highway/ traffic and other engineering disciplines
- ♦ Professional Engineers interested to earn CPD credit hours in this sector



## CPD Hours Credit

The training program is approved by Engineering Council of India for the award of 24 Continued Professional Development Hours, to the registered event delegates who participate for the complete event.

## Certification

Upon successful participation & clearing the test, the participant would be awarded two certifications, CPD Hour Credit certificates and IndSTT trade Skill Certificate on SUO 1.1

## About IndSTT

Indian Society for Trenchless Technology (IndSTT) is the autonomous apex organisation to promote the application of Trenchless Technology in India. It was established in 1995. Founders of this Society include various luminaries from the Construction Sector. Society is formed by its members and the Membership is open to all the interested persons and organizations. It is one of the founder members of Engineering Council of India. Website of society is [www.indstt.com](http://www.indstt.com).

## About AF Academy

AF Academy is an entity of Aqua Foundation, registered under Societies act in year 1998. AFA provides training & knowledge sharing platform to decision & policy makers, working professionals, operating level personnel and aspiring students willing to specialize in technical sector. Specialized trainings/ workshops and courses are been offered by AFA on subjects like Water, Geophysics and Land Survey.



**Venue:**

NAC Grounds, Cyberabad, Hyderabad  
Telangana State, India-500084

**Date:**

September 18-19, 2018

**Fee Structure:**

Rs 16,000 per participant, inclusive of training notes, morning and evening tea, & lunch. A discount of 20% for students and 10% discount on group booking of 04 or more participants from a single organization is applicable. GST will be charged extra as applicable (present rate of GST is 18%).

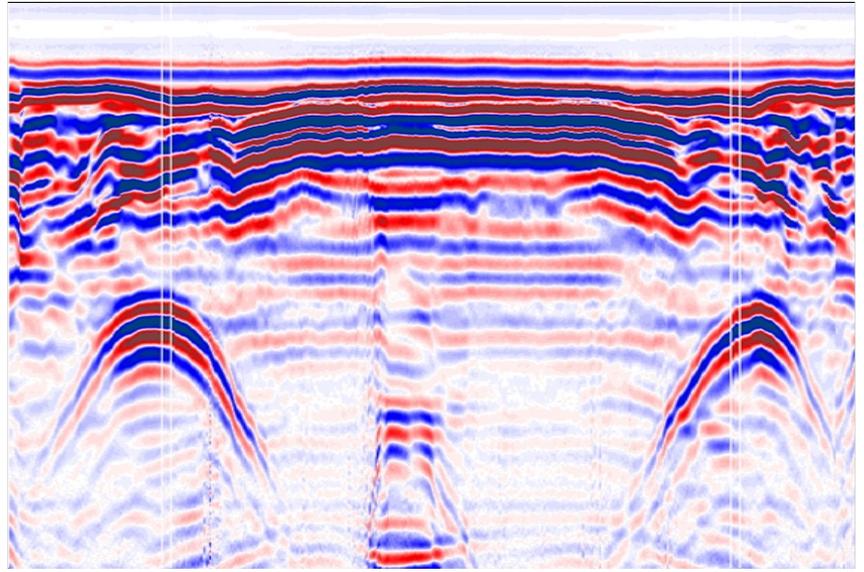
**Registration Process:**

Prior registration is must by sending email to [indstt@indstt.com](mailto:indstt@indstt.com). Fee to be paid through DD in favour of Indian Society for Trenchless Technology payable at New Delhi. The fee can also be deposited in following Bank account:

Name of the Bank: The Federal Bank Ltd; Address of the Bank: G. I - 6, Satkar Building, Nehru Place, New Delhi-110019

Name of the Account holder: **Indian Society for Trenchless Technology; A/C no: 13020100203697**

**IFSC Code: FDRL0001302**



**For registration or further enquiries and details, please contact:  
Indian Society for Trenchless Technology**

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**AF Academy**

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**Subsurface Utility Engineering**