

A group of technicians, wearing yellow hard hats and orange safety vests with 'mec' logos, are gathered around a large white industrial machine. One technician is pointing at a panel on the machine while others look on. The scene is outdoors in bright daylight.

Training Solutions





FTA Foundations Technology Academy

INNOVATION IN ONE'S OWN BUSINESS

Innovation is the capability of strengthening one's own business by developing new solutions which can solve problems, increase safety, reduce effort and improve economic results.

However innovation doesn't come from improvisation or just from the genius of a few people. It is rather rooted in experience, it develops thanks to science and technology and it is shared thanks to the hard work of a tight team.

FTA, LEARNING TO INNOVATE

The Trevi Group's attention to information is so meticulous that we established a unique School in the world in 2006, as a result of all previous training experiences. The Foundations Technology Academy (FTA) is ambitiously aiming at transferring the amazing experience gained by the Trevi Group and its passion for innovation, by stimulating business development and improvement of safety and performance on a global scale.

FTA: SAFETY, PERFORMANCE, PROFITS

The training is performed by professionals who gained direct experience on the field and who can offer a practical approach and a simple language. This is why learning can be efficacious, since it allows each student to easily dispose of advanced technologies. FTA is an International training project addressed to those who want to be introduced to the foundation sector for civil engineering and to those who are already working in it but who wish to increase their knowledge and specialization on foundation technologies and relevant equipment. Learning is the first instrument to support professionalism and talent and it is therefore capable of improving performance and safety at work; therefore it can increase profits from investments.

AN EXCELLENT ROUTE

Learning is a process which requires assimilation, re-processing and practical application of content. FTA helps this process by means of theoretical sessions availing themselves of the most advanced multimedia systems and field tests, thanks to the technological support offered by the Trevi Group. The maintenance of mechanical-hydraulic components, the use of hydraulic drilling equipments, the operation of electric systems, the analysis, problem-solving and safety protocols are only few of the lessons' contents. Lessons are combined with field tests in order to check mechanical, electric and hydraulic systems, as well as functional working procedures and checks. An attendance certificate proves the quality of the training course.



FTA Training Center

TREVI GROUP VISION - DEEPLY ROOTED IN PROVIDING ENGINEERING SOLUTIONS

Trevi Group, a community able to develop the most advanced technologies thanks to its deep roots in the ground engineering field.

The FTA Training Centre offers three types of training programs.

- Classroom training
- CBT - Computer Based Training
- Field training

Training programs can be tailor made choosing between topics listed in this catalogue, and can be focused on products and technologies selected from those in this catalogue.

Participants will be divided into workgroups according to their competence and work sector.



Site Managers and Field Engineers



Operators and Assistant Operators



Mechanics and Hydraulics Technicians



Electricians and Software Engineers



CLASSROOM TRAINING

General
Technologies
Hydraulic Piling Rigs
Microdrilling Rigs
Crawler Crane



CBT TRAINING

Technologies
Hydraulic Piling Rigs
Microdrilling Rigs
Crawler Crane



ON FIELD TRAINING

Technologies
Hydraulic Piling Rigs
Microdrilling Rigs
Crawler Crane





Deepening Classroom Training

The purpose of this phase is to provide a deep and full knowledge of rig operations, foundation technologies and controls systems. The training will be performed with the latest teaching technologies and materials, to provide theoretical and technical understanding. This phase is achieved by means of textbooks integrated with audio-video contents. All the personnel involved in the operations should attend the deepening classroom training that will have different development for workgroups:

Site Managers

The training is focused on the various technologies, job site lay out, safety and quality standards applied to different working situations. It also focuses on construction phases and field applications.

Operators

The training is focused on controls, interfaces, operative sequences and safety systems applied to the different working configurations. It is also focused on the steps and logic to realize these sequences.

Technicians

The training will give a deep knowledge of the hydraulic, pneumatic and electric systems of the rig.

- The first phase consists in a common session that has to provide a full basic overview of all the systems. It includes structured hydraulic training that provides easier understanding of the working logics.
- In the second phase the maintenance team will be divided into different working groups depending on the specific competences. Each team will be guided in the analysis of power and controls systems diagrams to be able to approach troubleshooting.
- The third phase will cover the rig maintenance aspects, discussing the preventive, ordinary and extraordinary schedules and interventions.





CBT - Computer Based Training



This course is based on CBT technology and includes the use of a multimedia platform on tablets. Its aim is to provide in-depth knowledge on Soilmec rigs. The course uses PDF technical documents, video-animation and 3D content. If the course is held at Soilmec SPA (Italy), in addition to the multimedia component on CBT, training meetings can also be organized with specialist personnel, so as to gain practical experience on the single components.

The CBT course employs a hierarchical structure to assess the level of learning achieved by personnel. The System includes a test at the end of each learning unit which, upon a positive result, gives access to the next topic. Each student will be provided with a user name and password in order to be able to verify, through a software manager, his progress in learning and to provide the client with final feedback on each participant.

The levels of training available will be:

Introduction

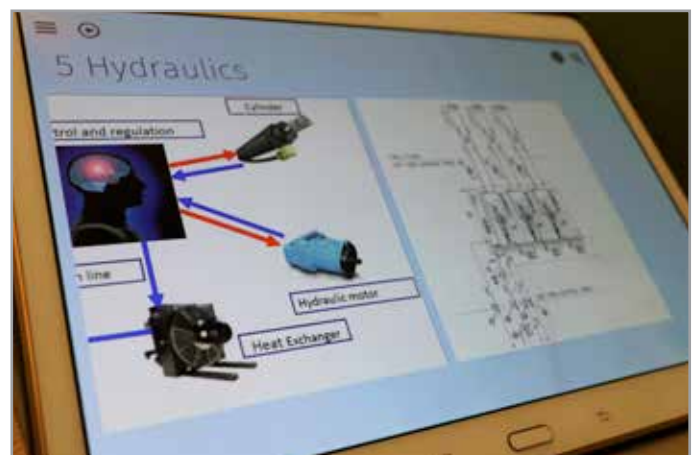
The purpose of this phase is to give a general overview of the system. The scope of work and the main features of the rig will be outlined, all the components will be described and their operating principle analysed.

Function

The purpose of this phase is to describe the function of each component and its troubleshooting in-depth. This will be achieved using the support of multimedia contents such as 3D models, pictures, and videos of the real rig.

Operational sequences

The purpose of this phase is to apply the knowledge obtained in the previous phases to analyse the working sequences of the rig. This will be done using the support of multimedia contents like 3D models, pictures and videos of the real rig. The sequences that will be studied are trip-in and trip-out and drilling in all working configurations.







On-Field Training

As completion of the classroom courses, FTA can provide the customer with direct on-site assistance.

The course is aimed at widening the competence of the job site personnel with regards to the hydraulic, electric/electronic and mechanical operations of Soilmec hydraulic drilling rigs and Trevi technologies, as well as providing the bases for the analysis of excavation working performance according to the soils and tools used.

Site managers and field engineers will be supported in safety and quality management directly on job site. The technologies topics will focus on the operational working phases and activity regarding the customers' site.

Field training has been proven to remarkably increase operator productivity and substantially reduce rig downtime while increasing safety awareness.

Our technical personnel will track the phases which range from the positioning to the initial operational phases.

The technicians will work alongside the operating staff to guarantee correct usage of the rig without putting the safety of inexperienced personnel at risk.

Assistance is provided to all personnel on site such as operators, assistant operators, mechanical technicians and electricians.

This type of training guarantees optimization of performances in the well start-up phase and allows drilling teams to complete their training.



Introduction to Foundations Technologies



The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course provides general overview of the main foundations technologies and their application fields, of the principles and techniques of drilling foundation and on the various kinds of machines used.

Course topics

General topics:

- Overview on Ground engineering techniques and their applications
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and Ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Driven Piles and Bored Piles
- Continuous Flight Auger Piles / Cased Auger Piles / Cased Secant Piles
- Displacement Piles / Turbojet® / Deep Soil Mixing
- Diaphragm walls and Barrettes (*Grab or Hydromill*)
- Micropiles and Anchors
- Jet Grouting
- Tunnels technologies

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Engineers;
Operative Crew;
Rig Supervisors;
Sales Agents.**

Prerequisites

**No experience in engineering
foundation sector needed**

Learning objectives

**To acquire the main concepts
of engineering foundations;**

**To learn the construction
phases of the various
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to sa-
fety and quality concepts.**

Deep Foundations Technologies



The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course provides general knowledge about the technologies related to soil improvement finalized to tunnel excavation applications and also the various kinds of machines used.

Course topics

General topics:

- Definition of application field
- Overview of related technologies
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and Ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Driven Piles
- Bored Piles
- Continuous Flight Auger Piles / Cased Auger Piles
- Displacement Piles
- Barrettes (*Grab or Hydromill*)

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To acquire a technical
knowledge about deep
foundations;**

**To learn the construction
phases of the applicable
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to
safety and quality concepts
focused on this jobfield.**



Retention Systems Technologies

The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course provides general knowledge about the technologies related to Retention systems applications and also the various kinds of machines used.

Course topics

General topics:

- Definition of application field
- Overview of related technologies
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and Ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Cased Auger Piles / Cased Secant Piles
- Diaphragm walls (Grab or Hydromill)
- Deep Soil Mixing
- Micropile and Anchors

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To acquire a technical
knowledge about deep
retention systems;**

**To learn the construction
phases of the applicable
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to
safety and quality concepts
focused on this jobfield.**



Soil Improvements Technologies

The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course provides general knowledge about the technologies related to Soil Improvement applications and also the various kinds of machines used.

Course topics

General topics:

- Definition of application field
- Overview of related technologies
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and Ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Deep soil Mixing
- Jet Grouting
- Cement and chemical Grouting
- Rapid Impact Compaction
- Dynamic Compaction (Heavy Tamping)

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To acquire a technical
knowledge about soil
improvements;**

**To learn the construction
phases of the applicable
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to
safety and quality concepts
focused on this jobfield.**

Cut-Off Technologies



The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course provides general knowledge about the technologies related to Cut-off applications and also the various kinds of machines used.

Course topics

General topics:

- Definition of application field
- Overview of related technologies
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and Ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Slurry wall (plus HDPE Membrane)
- Jet grouting
- Deep soil mixing
- Cement and chemical grouting

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To acquire a technical
knowledge about cut-off;**

**To learn the construction
phases of the applicable
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to
safety and quality concepts
focused on this jobfield.**

Tunnelling Technologies



The course is designed for both staff involved in the foundation sector for civil engineering industry and those without any direct experience. The course provides general knowledge about the technologies related to soil improvement finalized to tunnel excavation and also the various kinds of machines used.

Course topics

General topics:

- Definition of application field
- Overview of related technologies
- Soil and rock classifications and characteristics, Soil investigation
- Equipment and ancillaries
- Introduction to Jobsite Safety
- Main quality controls - Process and Product tests
- Case histories

Specific topics:

- Forepoling
- Jet grouting
- Fiberglass and Drainage bars
- Cement and chemical grouting

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To acquire a technical
knowledge about soil
improvements;**

**To learn the construction
phases of the applicable
technologies;**

**To learn the various kinds of
drilling rigs;**

**To have an introduction to
safety and quality concepts
focused on this jobfield.**

EUROPEAN STANDARD Special Geotechnical Works



The course is designed for both staff involved in the foundation sector for civil engineering industry and those without any direct experience. The course provides a specific knowledge of the European Standard adopted around the world for the Execution of special geotechnical works.

Course topics

- Overview on Standards around the world and countries where EN are applied
- EN 1536 Bored Piles
- EN 1538 Diaphragm walls
- EN 14199 Micropiles
- EN 1537 Ground Anchors
- EN 12716 Jet Grouting

Extra Packs (on demand) :

- EN 12699 Displacement piles - driven piles
- EN 12715 Grouting
- EN 14679 Deep soil mixing

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Field Engineers;
Foremen;
Sales Agents.**

Prerequisites

**Geotechnical knowledge
preferred but not essential**

Learning objectives

**To develop a general
knowledge of country
standards;**

**To acquire a specific
knowledge of main european
standards applied to the
special geotechnical works;**

**To learn about the main
design criteria and
construction rules;**

**To learn the process and
product controls.**

Safety in geotechnical works



The course is designed for both staff involved in the foundation sector for the civil engineering industry and those without any direct experience. The course introduces the general concepts of safety, and then focuses on risk assessment for special geotechnical works.

Course topics

General topics:

- Safety culture, Perception and risk management
- Safety plan, drawing up, interpretation, Toolboxes
- PPE, Collective protection devices, Jobsite signpost,
- EN 16228 Drilling & foundation equipment - safety
- Risk assessment for special geotechnical works
- Near miss reporting, case histories

Specific topics:



Drilling Operators

- Assembly and disassembly, procedures and training
- Equipment management: Periodic maintenance, Functionality checks, Security devices



Hydraulic & Electric Technicians

- Specific risk assessment for maintenance

Extra Packs (on demand):

- Risk assessment focuses on a specific technology
- Quality management for geotechnical works or for a specific technology
- Environmental management for geotechnical works or for a specific technology

Duration

1 day

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site Managers;
Engineers;
Operative crew;
Maintenance techniques;
Rig supervisors.**

Prerequisites

**No experience in engineering
foundation sector needed**

Learning objectives

**To acquire the safety culture;
To develop the basic skills of
risk perception and analysis ;
To know the main safety
tools regarding special
geotechnical works;
To develop a general
knowledge of safety
standards.**



Large Diameter Bored Piles

The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1536
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Extra Packs (on demand):

- CFA/CAP/CSP Piles
- Displacement Pile
- Soil deep mixing
- Driven Piles

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Continuous Flight Auger (CFA) Cased Piles (CAP) - Secant Piles (CSP)



The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1536
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Equipment and techniques related to the working conditions
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Concrete and steel controls
- Process and product tests

Extra Technology Packs (on demand):

- Displacement Pile
- Soil deep mixing

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers ;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**



Deep Soil Mixing - Turbojet®

The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 14679
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Diaphragm Walls - Hydromill



The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1538
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Extra Technology Packs (on demand):

- Clamshell bucket
- Deep soil mixing
- Alternative technologies

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Micro Drilling



The course provides specific knowledge about the drilling techniques and related technologies and application fields.

Course topics

General topics:

- Soil & rock classification and characteristics
- Technologies and Geotechnical application fields
- Drilling techniques
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 14199 and EN 1537
- Acquisition and use of electronic processing parameters
- Case histories

Specific topics:

Micropiles

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Tests Field, Process And Product Tests

Anchors

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Tests field, process and product tests

Extra Technology Packs (on demand):

- Tunnel technologies
- Jet Grouting
- Injections

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site manager;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
drilling techniques and related
technologies;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Jet Grouting



The course provides specific knowledge about the technology and related application fields.

Course topics

General topics:

- Soil & rock classification and characteristics
- Technologies and Geotechnical application fields
- Drilling techniques
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 12716
- Acquisition and use of electronic processing parameters (DMS, DPS, APS)
- Case histories

Specific topics:

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Test field, process and product tests

Extra Technology Packs (on demand):

- Tunnel technologies
- Injections
- Deep Soil Mixing

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

DMS Course



The seminar is aimed at providing the basics of practical use of DMS onboard for machine operators, focusing on preliminary controls prior to starting daily work on machines, settings, execution of DMS-assisted working cycles and recording of production data. All the topics will be faced in practical manner using a DMS simulator.

Course topics:

- Relevant settings on DMS onboard, at both operator's and site manager's access levels
- Checklist of preliminary controls to be performed on DMS onboard to ensure high-accuracy data recording
- Execution of DMS-assisted working cycles
- Common operations onboard
- Knowledge of DMS onboard data recording capabilities in different technologies
- Checklist of preliminary controls to be performed on DMS onboard to ensure high-accuracy data recording
- Relevant settings to send production data automatically to office personnel
- Use of DMS PC software for data analysis, elaboration and reporting
- Quick overview of DMS Manager software for fleet monitoring, geolocation and remote connection to the rigs

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operative Crew;
Engineers;
Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**No experience in engineering
foundation sector needed**

Learning objectives

**To acquire a technical and
working knowledge of DMS;**

**To learn the various types
of setting, data analysis and
reports;**

**To learn the main functions of
the DMS Manager software.**

SR - Soilmec Hydraulic Drilling Rigs



The Hydraulic Drilling Rigs course is designed for operators and technicians that work with SR. The course provides a general overview of the rigs and technologies and of the various kinds of systems used. If carried out at Soilmec SPA (Italy) it is possible to organize visits to the field tests to integrate theory and practice.

General Training 3 days

SR Line

- Range Description
- Technologies and ancillaries
- Consciousness of work: Consequences of mistakes, faults or failure in execution to the general opera (*case history*)
- Main Component
- Transport & Assembly
- Safety
- Electric/electronic system and diagram of a drilling rig
- Hydraulic system of the LDP rig and its operation
- DMS

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Technologies & operative sequences
- Cab & controls
- Qualify: materials, process, product
- Environment management about technology
- Work organization: Tasks of team members



Hydraulic & Electric Training 2 days

- Maintenance of LDP rig
- Diagnostic and trouble shooting
- Quality in maintenance
- Environment in maintenance

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Foremen;
Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the LDP;**

**To learn the routine and non-
routine maintenance of the
rigs;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the rigs.**



SM - Soilmec Micropiles

The Micropiles course is designed for operators and technicians that work with SM and ST line. The course provides a general overview of the rigs and technologies and of the various kinds of systems used. If carried out at Soilmec SPA (Italy) it is possible to organize visit to the field test to integrate theory and practice.

General Training 3 days

SM & ST Line

- Range Description
- Technologies and ancillaries
- Main Component
- Safety
- Electric/electronic system of the MP rig
- Hydraulic system of the MP rig

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & rock classification and characteristics
- Drilling systems
- Technologies & operative sequences
- Transport, Assembly and functioning
- Qualify: materials, process, product
- Environment management about technology
- Work organization: Tasks of team members
- Maintenance and troubleshooting in the job-site



Hydraulic & Electric Training 2 days

- Maintenance of MP rig
- Diagnostic and troubleshooting
- Quality in maintenance
- Environment in maintenance

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Foremen;
Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the
micropiles;**

**To learn the routine and non-
routine maintenance of the
rigs;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the rigs.**

SC - Soilmec Cranes



The Soilmec Cranes course is designed for operators and technicians that work with SC line. The course provides a general overview of the machines and technology. If carried out at Soilmec SPA (Italy) it is possible to organize visits to the field tests to integrate theory and practice.

General Training 3 days

SC Line

- Hydromill Technology and equipments
- Main Component
- Safety
- Electric/electronic Basic Course
- Hydraulic system of the cranes
- Cranes Transport & Assembly
- Measuring and control instruments

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Technology & operative sequences
- Qualify: materials, process, product
- Environment management about technology
- Work organization: Tasks of team members



Hydraulic & Electric Training 2 days

- Maintenance of the crane
- Diagnostic and troubleshooting
- Quality in maintenance
- Environment in maintenance

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Foremen;
Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the
cranes;**

**To learn the routine and non-
routine maintenance of the
cranes;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the cranes.**



Tiger and Cougar Hydromills

The Hydromill course is designed for operators and technicians that work with Tiger and Cougar line. The course provides a general overview of the machines and technology. If carried out at Soilmec SPA (Italy) it is possible to organize visits to the field tests to integrate theory and practice.

General Training 3 days

Tiger and Cougar Line

- Hydromill Technology and equipments
- Main Component
- Safety
- Electric/electronic Basic Course
- Hydraulic system of the Hydromill
- Hydromill Transport & Assembly
- Measuring and control instruments

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Technology & operative sequences
- Qualify: materials, process, product
- Environment management about technology
- Work organization: Tasks of team members



Hydraulic & Electric Training 2 days

- Maintenance of the Hydromill rig
- Diagnostic and troubleshooting
- Quality in maintenance
- Environment in maintenance

Duration

5 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

**Foremen;
Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the hydromills;

To learn the routine and non-routine maintenance of the hydromills;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the hydromills.

Hydraulic Drilling rigs

EVO line SR-30/40/60/80



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & Control
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- Electric system troubleshooting
- Symbols
- Ordinary maintenance

Extra Technology Pack (On Demand) 1 Day

- CFA Technology pack

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request***

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the SR
EVO rig;**

**To learn the routine and non-
routine maintenance of the SR
EVO rig;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the SR EVO
rig.**

Hydraulic Drilling rigs ADV line SR-45/75



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- DMS data transmission
- Symbols
- CAN communication protocol
- Electric system troubleshooting

Extra Technology Pack (On Demand) 1 Day each one

- CFA/CAP/DP Technology pack
- TJ Technology pack

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the SR
ADV rig;**

**To learn the routine and non-
routine maintenance of the SR
ADV rig;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the SR ADV
rig.**

Hydraulic Drilling rigs ADV line SR-95/125/145



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls
- DMS data transmission



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- Electric system troubleshooting
- DMS data transmission
- CAN communication protocol
- Symbols

Extra Technology Pack (On Demand) 1 Day each one

- CFA/CAP/DP Technology pack
- TJ Technology pack

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SR ADV rig;

To learn the routine and non-routine maintenance of the SR ADV rig;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SR ADV rig.

Hydraulic Drilling rigs SF line SF-50/65



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- CFA job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- CFA Technology & operative sequences
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- DMS data transmission
- Symbols
- CAN communication protocol
- Electric system troubleshooting

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SF rig;

To learn the routine and non-routine maintenance of the SF rig;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SF rig.

Hydraulic Crawler Cranes

SC-50/70 HD



General Training 2 days

Crane

- General Description
- Boom & Winches
- Undercarriage & Turret
- Electric System
- Transport & Assembly
- Hydraulic system
- Safety
- Cab & DMS
- Instruction Manual & Spare Parts cat.

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Cab & controls
- DMS data transmission



Hydraulic Training 2 days

- Basic principles
- Hydraulic scheme analysis
- Overcentre & brakes
- Diagnostic & troubleshooting
- Tank & Cooling
- Symbols



Electric Training 2 days

- Basic principles
- DMS data transmission
- Electric diagrams analysis
- CAN communication protocol
- Electric system troubleshooting
- Symbols

Extra Technology Pack (On Demand)

1 Day each one

- DW Technology pack
- LDP Technology pack

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SC cranes;

To learn the routine and non-routine maintenance of the SC cranes;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SC cranes.

Hydraulic Crawler Cranes SC-90/120 HD



General Training 2 days

Crane

- General Description
- Boom & Winches
- Undercarriage & Turret
- Electric System
- Transport & Assembly
- Hydraulic system
- Safety
- Cab & DMS
- Instruction Manual & Spare Parts cat.

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Hydraulic scheme analysis
- Overcentre & brakes
- Diagnostic & troubleshooting
- Tank & Cooling
- Symbols



Electric Training 2 days

- Basic principles
- DMS data transmission
- Electric diagrams analysis
- CAN communication protocol
- Electric system troubleshooting
- Symbols

Extra Technology Pack (On Demand) 1 Day each one

- DW Technology pack
- LDP Technology pack
- DC Technology pack
- DRIVEN PILE Technology pack

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SC cranes;

To learn the routine and non-routine maintenance of the SC cranes;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SC cranes.



Large Diameter Bored Piles

The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1536
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Extra Packs (on demand):

- CFA/CAP/CSP Piles
- Displacement Piles
- Soil deep mixing
- Driven Piles

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;
To enhance the knowledge of
construction phases and field
applications;**

**To know how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Continuous Flight Auger (CFA) Cased Piles (CAP) - Secant Piles (CSP)



The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1536
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Equipment and techniques related to the working conditions
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Concrete and steel controls
- Process and product tests

Extra Technology Packs (on demand):

- Displacement Piles
- Soil deep mixing

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To know how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Deep Soil Mixing - Turbojet®



The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 14679
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Duration

3 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred but
not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To learn how to manage safety,
quality and environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

C-04



Diaphragm Walls - Hydromill

The course provides specific knowledge about the technology, the related application fields and also the various kinds of machines used.

Course topics

General topics:

- Soil & rock classification and characteristics
- Geotechnical application fields
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 1538
- Acquisition and use of electronic processing parameters (DMS)
- Case histories

Specific topics:

- Drilling techniques
- Processing stages
- Advantages and limitations
- Technology variants
- Related design choices and geometrical controls
- Drilling slurry, concrete, steel and execution controls
- Process and Product tests

Extra Technology Packs (on demand):

- Clamshell bucket
- Deep soil mixing
- Alternative technologies

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To know how to manage
safety, quality and
environment for the
technology;**

**To acquire knowledge for
troubleshooting.**

Micro Drilling

C-05



The course provides specific knowledge about the drilling techniques and related technologies and application fields.

Course topics

General topics:

- Soil & rock classification and characteristics
- Technologies and Geotechnical application fields
- Drilling techniques
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 14199 and EN 1537
- Acquisition and use of electronic processing parameters
- Case histories

Specific topics:

Micropiles

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Tests Field, Process And Product Tests

Anchors

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Tests field, process and product tests

Extra Technology Packs (on demand):

- Tunnel technologies
- Jet grouting
- Injections

Duration

5 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
drilling techniques and related
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To know how to manage
safety, quality and environment
for the technology;**

**To acquire knowledge for
troubleshooting.**



Jet Grouting

The course provides specific knowledge about the technology and related application fields.

Course topics

General topics:

- Soil & rock classification and characteristics
- Technologies and Geotechnical application fields
- Drilling techniques
- Safety about the technology
- Jobsite layout, equipment & ancillaries
- Environmental management
- European standards EN 12716
- Acquisition and use of electronic processing parameters (DMS, DPS, APS)
- Case histories

Specific topics:

- Processing stages and grouting
- Technology variants
- Advantages and limitations
- Materials and execution controls
- Test field, process and product tests

Extra Technology Packs (on demand):

- Tunnels technologies
- Injections
- Deep Soil Mixing

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site managers;
Field engineers;
Foremen;
Rig supervisors.**

Prerequisites

**Experience in engineering
foundation sector preferred
but not essential**

Learning objectives

**To develop a technical and
working knowledge of the
drilling techniques and related
technology;**

**To analyze the jobsite layout
and the equipment;**

**To enhance the knowledge of
construction phases and field
applications;**

**To know how to manage
safety, quality and environment
for the technology;**

**To acquire knowledge for
troubleshooting.**

Hydraulic Drilling rigs

EVO line SR-30/40/60/80



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & Control
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- Electric system troubleshooting
- Symbols
- Ordinary maintenance

Extra Technology Pack (on demand) 1 Day

- CFA Technology pack

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the SR
EVO rig;**

**To learn the routine and non-
routine maintenance of the
SR EVO rig;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the SR EVO
rig.**

Hydraulic Drilling rigs ADV line SR-45/75



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- DMS data transmission
- Symbols
- CAN communication protocol
- Electric system troubleshooting

Extra Technology Pack (on demand) 1 Day each one

- CFA/CAP/DP Technology pack
- TJ Technology pack

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SR ADV rig;

To learn the routine and non-routine maintenance of the SR ADV rig;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SR ADV rig.

Hydraulic Drilling rigs

ADV line SR-95/125/145



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- LDP Large Diameter Pile job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- LDP Technology & operative sequences
- Cab & controls
- DMS data transmission



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- Electric system troubleshooting
- DMS data transmission
- CAN communication protocol
- Symbols

Extra Technology Pack (on demand) 1 Day

- CFA/CAP/DP Technology pack
- TJ Technology pack

Duration

4 days

Languages

English, Italian
or any other language upon client's request

Location

Cesena (FC) - Italy
or any customer's site

Audience

Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.

Prerequisites

Drilling and maintenance experience preferred but not essential

Learning objectives

To develop a technical and working knowledge of the SR ADV rig;

To learn the routine and non-routine maintenance of the SR ADV rig;

To learn the rig controls and the operational sequence;

To acquire knowledge for troubleshooting the SR ADV rig.

Hydraulic Drilling rigs SF line SF-50/65

C-10



General Training 2 days

Rig

- General Description
- Undercarriage & Turret
- Electric System
- Hydraulic system
- Cab & DMS
- Rotary & Crowd System
- Mast & Winches
- Transport & Assembly
- Safety
- Instruction Manual & Spare Parts cat.

Technology System

- CFA job site lay out and related ancillaries

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- CFA Technology & operative sequences
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Overcentre & brakes
- Tank & Cooling
- Hydraulic scheme analysis
- Diagnostic & troubleshooting
- Symbols



Electric Training 2 days

- Basic principles
- Electric diagrams analysis
- DMS data transmission
- Symbols
- CAN communication protocol
- Electric system troubleshooting

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the
SF rig;**

**To learn the routine and non-
routine maintenance of the
SF rig;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the SF rig.**

Hydraulic Crawler Cranes

SC-50/70 HD



General Training 2 days

Crane

- General Description
- Boom & Winches
- Undercarriage & Turret
- Electric System
- Transport & Assembly
- Hydraulic system
- Safety
- Cab & DMS
- Instruction Manual & Spare Parts cat.

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Cab & controls
- DMS data transmission



Hydraulic Training 2 days

- Basic principles
- Hydraulic scheme analysis
- Overcentre & brakes
- Diagnostic & troubleshooting
- Tank & Cooling
- Symbols



Electric Training 2 days

- Basic principles
- DMS data transmission
- Electric diagrams analysis
- CAN communication protocol
- Electric system troubleshooting
- Symbols

Extra Technology Pack (On Demand)

1 Day each one

- DW Technology pack
- LDP Technology pack

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To develop a technical and
working knowledge of the
SC cranes;**

**To learn the routine and non-
routine maintenance of the
SC cranes;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge for
troubleshooting the SC
cranes.**

Hydraulic Crawler Cranes SC-90/120 HD

C-12



General Training 2 days

Crane

- General Description
- Boom & Winches
- Undercarriage & Turret
- Electric System
- Transport & Assembly
- Hydraulic system
- Safety
- Cab & DMS
- Instruction Manual & Spare Parts cat.

SPECIFIC TRAINING COURSES



Operator Training 2 days

- Soil & Rock classification and characteristics
- Cab & controls
- DMS on board



Hydraulic Training 2 days

- Basic principles
- Hydraulic scheme analysis
- Overcentre & brakes
- Diagnostic & troubleshooting
- Tank & Cooling
- Symbols



Electric Training 2 days

- Basic principles
- DMS data transmission
- Electric diagrams analysis
- CAN communication protocol
- Electric system troubleshooting
- Symbols

Extra Technology Pack (on demand)

1 Day each one

- DW Technology pack
- LDP Technology pack
- DC Technology pack
- DRIVEN PILES Technology pack

Duration

4 days

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;
Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objective

**To develop a technical and
working knowledge of the
SC cranes;**

**To learn the routine and non-
routine maintenance of the
SC cranes;**

**To learn the rig controls and
the operational sequence;**

**To acquire knowledge
for troubleshooting the
SC cranes.**

On-Field Training

Site managers and Field engineers



The On-Field course is designed for Site managers, Field engineers and their assistants.

The courses are directly carried out in job sites where participants can practically apply the theoretical lessons.

The On-Field training lets participants practice quality controls, take confidence with safety and environment management and also with jobsite layout and equipment.

General

- Processing stages
- Drilling techniques
- Jobsite layout, equipment and ancillaries
- Safety on job site
- Process and product controls

Practice on drilling foundation machine from cab or remote

- Job site analysis
- Process quality controls
- Acquisition and use of electronic processing parameters (DMS)

Duration

To be agreed

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Site manager;
Field engineers;
Foremen.**

Prerequisites

**Experience in engineering
foundation preferred but not
essential**

Learning objectives

**To provide a practical side to
the theoretical course;**

**To assist site personnel in
safety, quality management
and site organization;**

**To know the processing steps
of technologies applied to the
jobsite.**

On-Field Training Operators

The On-Field course is designed for operators, assistant operators and rig supervisors.

The courses are directly carried out in job sites where participants can see and learn about the technical operations of new equipments and working methods.

The On-Field training includes site visit and its description; rig use and maintenance manual analysis; explanation of the working method employed; explanation and sharing of the rig technical operations in all phases.

General

- Description and use of “Instruction manual”
- Description and use of “Spare parts catalogue”
- Safety on job site

Practice on drilling foundation machine from cab or remote

- Machine rig up and assembly
- Machine tramming and positioning
- Machine drilling operation
- DMS on board and report

F-02



Duration

To be agreed

Languages

**English, Italian
or any other language upon
client's request**

Location

**Cesena (FC) - Italy
or any customer's site**

Audience

**Operators;
Rig supervisors;**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objective

**To provide a practical side to
the theoretical course;**

**To assist operators in the
initial working phases;**

**To know the functions and
components of the cab and
controls;**

On-Field Training Technicians



The On-Field course is designed for mechanic and hydraulic technicians, electricians and software engineers.

The courses are directly carried out in job sites where participants can see and learn about the maintenance and service operations of new equipments.

The On-Field training includes site visit and its description; maintenance manual analysis; explanation and sharing of the rig troubleshooting and problem solving operations in all phases.

General

- Description and use of “Instruction manual”
- Description and use of “Spare parts catalogue”
- Safety on job site

Maintenance and Troubleshooting

- Hydraulic and electric schemes analysis
- Equipment’s maintenance description
- DMS alarms and analysis
- Problem solving
- Daily maintenance check list

Duration

To be agreed

Languages

**English, Italian
or any other language upon
client’s request**

Location

**Cesena (FC) - Italy
or any customer’s site**

Audience

**Mechanics;
Hydraulic technicians;
Electricians;
Software engineers.**

Prerequisites

**Drilling and maintenance
experience preferred but not
essential**

Learning objectives

**To provide a practical side to
the theoretical course;**

**To assist technicians in the
initial rig up phases;**

**To experience practically in
routine maintenance;**

**To interpretate hydraulic
and electric diagrams with
relevant practical experience.**



CLASSROOM TRAINING

Training Course	Description	Duration	Languages	Audience
GENERAL	I-01 Introduction to foundations technologies	5 days	ENG / ITA	   
	I-02 Deep foundations technologies	3 days	ENG / ITA	   
	I-03 Retention systems technologies	3 days	ENG / ITA	   
	I-04 Soil improvement technologies	3 days	ENG / ITA	   
	I-05 Cut-off technologiess	3 days	ENG / ITA	   
	I-06 Tunnelling technologies	3 days	ENG / ITA	   
	I-07 European standard - Special geotechnical works	5 days	ENG / ITA	   
	I-08 Safety in geotechnical works	1 days	ENG / ITA	   
TECHNOLOGY	I-09 Large diameter bored piles	4 days	ENG / ITA	   
	I-10 CFA - CAP - CSP piles	3 days	ENG / ITA	   
	I-11 Deep Soil Mixing - Turbojet	3 days	ENG / ITA	   
	I-12 Diaphragm walls - Hydromill	4 days	ENG / ITA	   
	I-13 Micro drilling	5 days	ENG / ITA	   
	I-14 Jet grouting	4 days	ENG / ITA	   
PRODUCT	I-15 DMS general	5 days	ENG / ITA	   
	I-16 SR general	5 days	ENG / ITA	   
	I-17 SM Soilmec Micropiles	5 days	ENG / ITA	   
	I-18 MP general	5 days	ENG / ITA	   
	I-19 Tiger and Cougar Hydromill	5 days	ENG / ITA	   
	I-20 SR-30/40/60/80 EVO	4 days	ENG / ITA	   
	I-21 SR-45/75 ADV	4 days	ENG / ITA	   
	I-22 SR-95/115/145 HIT	4 days	ENG / ITA	   












CLASSROOM TRAINING

Training Course		Description	Duration	Languages	Audience
PRODUCT	I-23	SF-50/65	4 days	ENG / ITA	   
	I-24	SC-50/70 HD	4 days	ENG / ITA	   
	I-25	SC-90/120 HD	4 days	ENG / ITA	   



CBT TRAINING

Training Course		Description	Duration	Languages	Audience
	C-01	Large diameter bored piles	4 days	ENG / ITA	   
	C-02	CFA - CAP - CSP piles	3 days	ENG / ITA	   
	C-03	Deep Soil Mixing - Turbojet	3 days	ENG / ITA	   
	C-04	Diaphragm wall - Hydromill	4 days	ENG / ITA	   
	C-05	Micro drilling	5 days	ENG / ITA	   
	C-06	Jet grouting	4 days	ENG / ITA	   
	C-07	SR-30/40/60/80 EVO	4 days	ENG / ITA	   
	C-08	SR-45/75 ADV	4 days	ENG / ITA	   
	C-09	SR-95/125/145 HIT	4 days	ENG / ITA	   
	C-10	SF-50/65	4 days	ENG / ITA	   
	C-11	SC-50/70 HD	4 days	ENG / ITA	   
	C-12	SC-90/120 HD	4 days	ENG / ITA	   



ON-FIELD TRAINING

Training Course		Description	Duration	Languages	Audience
	F-01	On field training - Site Managers & Field Engineers	to be agreed	ENG / ITA	   
	F-02	On field training - Operators	to be agreed	ENG / ITA	   
	F-03	On field training - Technicians	to be agreed	ENG / ITA	   

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notes



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