Course Description:
The course is held at the Schlumberger European Learning Center (ELC) training facility in Melun, France. This course aims at providing sound fundamentals for both operators and data users to be able to operate Vx meters, understand the process required to properly set it up and validate and troubleshoot data. After an initial introduction to the fundamental principles of the meter, the course will be mostly applied, based on practical operations on the meter and its associated software as well as on hands-on tutorials. This course will allow participants to gain a sound understanding of the steps required to operate and set-up a Vx meter, as well as an understanding of measurement sensitivity and the various associated troubleshooting steps to verify data as well as identify maintenance requirements.

In addition to the data acquisition, interpretation and validation process, this training will also provide an overview of the precautions required when operating the meter to avoid damage to the meter and importantly to minimize HSE risks.

Audience:
Production Engineers, Petroleum Engineers, Production Supervisors, well-site Operators and Engineers

Prerequisites:
Computer literacy and fundamental scientific skills are required to be able to operate the software associated with the meter as well as grasp the key operating principles. Some experience in production metering operations is also required to facilitate the understanding of the position of multiphase meters in the production measurement system.

About NExT
NExT, a Schlumberger company, has more than 14 years of experience providing training, competency, and professional development services for the E&P industry. With a portfolio of more than 420 courses covering technical, practical, and software skills, NExT develops the petrotechnical expertise necessary to meet today’s increasingly complex industry challenges.

For a comprehensive portfolio of courses covering a broad spectrum of disciplines, visit www.NExTtraining.com
ELC Induction and HSE Briefing
Fundamentals: Multiphase Metering Principles and Hardware Introduction
- Basic components, certifications, radiation awareness
- Meter connectivity methods
- Technology fundamentals and principles

Vx Meter Set-up and Configuration: Fluid Properties Model
- Meter inputs review and inputs determination process
- Service Manager software introduction and overview

On the first day, the students are first given an overview of the fundamental principles driving Vx technology. This starts from a presentation of the hardware setup and description of acquired measurements, before moving into the data interpretation principles leading to the determination of flow rates, giving the students a complete theoretical overview of the meter system. Following this, a full review of required inputs will be given and the various means of determining them will be presented along with the associated operations on the acquisition software. At the end of this first day, the students will possess all the basic understanding of meter operations.

Practice on Flow Loop, EP, Sampling, In-situs and PVT Model Set-up
- Understanding sensitivities and key parameters
- Review of calculation inputs and their role
- Understanding meter sensitivity on inputs, hands-on and tutorials
- Applied sensitivity analysis, Service Manager practice

Data Verification and Meter Troubleshooting
- Meter hardware troubleshooting, recognizing the symptoms and correcting
- Effect of wrong inputs, what is the impact? Forward error propagation
- Input troubleshooting, from symptom to root cause

Following the theoretical presentation on the first day, the first part of day 2 will be dedicated to practical operations on the meter itself, where the various operations required to set-up the meter for proper operations will be performed. This will give the students a good understanding of the practical field operations required and better understand the sequence of events and requirements associated with meter commissioning and maintenance. Operations on flowing fluids will also be carried out, to illustrate how the various inputs affect the meter outputs. This will pave the way for an introduction to meter troubleshooting workflows, starting from hardware but also providing the main tools to determine possible root causes when measurement deviations are observed, allowing for effective data validation and troubleshooting.

For more information on the course, please contact:
Name: Isabelle Badets
email: IBadets@slb.com
The last day of the course will focus on assisted tutorials, where the students will first be given the list of data that should be captured during operations for data validation and troubleshooting purposes and will have the opportunity to identify the sources of wrong data based on actual meter readings. This will lead into the definition of operational KPIs and verification/maintenance strategy that can be deployed to the field.

At the end of that training, the students will thus have captured the foundation required to set-up a meter, analyze resulting data, understand measurement sensitivities and build effective operational strategies for deployment.
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Cost: EURO 4,950