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# Offshore Oil and Gas Development Projects, Concepts and Facilities

## INTRODUCTION

- Participants on this Offshore Oil and Gas Development Projects, Concepts and Facilities training seminar will gain a good understanding of the concept selection, engineering, functional, processing, construction, project management and cost aspects of oil and gas production and export facilities.
- This training seminar will prepare participants to work with and within multi-disciplinary teams involved in the planning and construction of oil and gas facilities, including of: in-field gathering equipment, processing plant, pipelines, offshore platforms, and subsea facilities.
- This Offshore Oil and Gas Development Projects, Concepts and Facilities training seminar also provides an insight into the roles of the diverse scientific, technical, commercial and business disciplines that contribute to the wider scope of field development planning and execution, with whom development and facilities engineers must communicate and collaborate.

## OBJECTIVES

By the end of this training seminar, participants will:

- Have an understanding of the scope, function, cost and selection criteria of the full range of oil and gas plant, equipment, structures and vessels
- Have practical skills and work tools that will be of direct use to them in their future project work
- Understand the background to the industry, and the underlying science of oil and gas formation
- Recognise the importance of effective early planning decisions (concept selection and ‘front-end loading’) in delivering successful projects
- Have an overview of the challenges of field development projects, based on a review of case studies of actual projects

## TRAINING METHODOLOGY

This training seminar is both practical and theoretical, and is delivered by means of:

- Interactive presentations and tutorials
- Team and individual workshop exercises
- Onscreen worked examples
- Short videos
- Debates and discussions
- Guided self-study and research
- Quizzes
- Case studies

## WHO SHOULD ATTEND?

- This Offshore Oil and Gas Development Projects, Concepts and Facilities training seminar is relevant to participants from a wide range of backgrounds, including those working within development and facilities engineering such as Project Management Professionals, as well as those from other technical and not-technical backgrounds that need to understand the role of development and facilities engineering.

This training seminar is suitable for participants of all disciplines that want to:

- Prepare for greater involvement and leadership roles in field development, strategic management and decision making
- Equip themselves for working within close-knit, value-focused, multi-disciplinary, fully-integrated asset development teams working on complex, large-scale projects
- Gain an understanding of the very broad scope of field development engineering, and the complexity and challenges of facilities engineering on mega projects

## Course Outline

### Overview and Context

- The Industry Context. The upstream oil and gas industry from various key 'perspectives', such as the oil and gas asset lifecycle, the value chain, the industry players, and the place in society.
- The Professional Context. Overview of the fundamental geoscience and engineering disciplines, which form the basis of the industry and drive the definition of development projects, including geophysics, petrophysics, reservoir engineering, well engineering and facilities engineering.
- Project Management in the Upstream Oil and Gas Industry. Overview of the science, culture, practice and challenges of project management in the upstream oil and gas sector.

## Development Concepts and Project Management Principles

- Offshore Development Concepts and their Selection. The principal engineering concepts (architectures) that are used to develop oil and gas fields, including fixed and floating platforms, and subsea developments. The reasons why particular concepts are selected, and future trends in offshore production.
- Project Management. The fundamentals of project management within the context of the upstream oil and gas industry, and the tools and techniques available for planning, scheduling and controlling activities, resources and budgets.
- Project Planning and Scheduling Software. An overview of how software tools, such as Microsoft Project, are used to assist project management and scheduling.
- Project Management Workshop. Participants work individually, or in teams, on realistic project management, field development planning, economics and decision making exercises.

## Field Development Planning

- Field Development Planning. How the integrated, team, drawn from all disciplines (commercial, scientific and engineering) collaborate to identify the best way to develop a reservoir.
- Project Planning, Scheduling and Control. How to express project plans in terms of schedules and Gantt charts by identifying activities to which resources are assigned.
- Project Management Workshop. Participants work individually, or in teams, on realistic project management, field development planning, economics and decision making exercises.

## Cost Forecasting

- Lifecycle Costing. Overview of the full scope of costs incurred during oil and gas exploration and production, broken down into underlying classifications, and with representative values, including of: all phases from acquisition through to decommissioning; of internal owner's costs, consultant costs and contractor costs; and of capital, drilling, operating and decommissioning costs.
- Project Management Guidelines and Methodologies. Where to find information on project management best practises, and the main standards and methodologies accepted in the industry, such as the Project Management Body of Knowledge (PMBOK).
- Project Management Workshop. Participants work individually, or in teams, on realistic project management, field development planning, economics and decision making exercises.

## Safety, Environment and Corporate Responsibility

- Corporate Responsibility. How oil and gas projects are executed in a safe and sustainable manner, with due respect for the environment, and in a way that benefits the local communities in which activities take place, covering topics such as: safety, environmental impact and social licence to operate.

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