# COURSE OVERVIEW DE1120
# Brownfield Development and Execution

**Course Title**
Brownfield Development and Execution



**Course Date/Venue**
November 01-05, 2026/Sur Meeting Room, Royal Tulip Muscat Hotel, Muscat, Oman

**Course Reference**
DE1120

**Course Duration/Credits**
Five days/3.0 CEUs/30 PDHs







**Course Description**



***This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.***

This course is designed to provide participants with a detailed and up-to-date overview of Brownfield Development and Execution. It covers the significance of brownfield projects in the petroleum industry and the key differences between brownfield and greenfield projects; the brownfield redevelopment strategies, brownfield assets and infrastructure and the regulatory and environmental considerations; the project management in brownfield development and the roles and qualities of successful project managers; the brownfield stage gate system and front-end engineering design (FEED) for brownfield projects; and the integration of new systems with existing facilities.



During this interactive course, participants will learn the operations staff buy-in and oversight board for issue resolution and planning and scheduling brownfield execution; the shutdown, turnaround and tie-ins and simultaneous operations (SIMOPS); the brownfield construction and site challenges and proper commissioning and start-up of brownfield projects; the operational readiness in brownfield projects and risk management in brownfield development; the asset integrity management in brownfield facilities and digitalization and automation in brownfield execution; the cost management and budgeting in brownfield projects; and the brownfield specific contract strategy and brownfield execution and troubleshooting.



## Course Objectives/Outcomes & Benefits for the Participants

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an in-depth knowledge on brownfield development and execution
- Discuss the significance of brownfield projects in the petroleum industry and the key differences between brownfield and greenfield projects
- Carryout brownfield redevelopment strategies, assess brownfield assets and infrastructure and discuss the regulatory and environmental considerations
- Apply project management in brownfield development and identify the roles and qualities of successful project managers
- Recognize brownfield stage gate system, front-end engineering design (FEED) for brownfield projects and integration of new systems with existing facilities
- Discuss operations staff buy-in and oversight board for issue resolution as well as plan and schedule brownfield execution
- Perform shutdown, turnaround and tie-ins and management simultaneous operations (SIMOPS)
- Identify brownfield construction and site challenges and apply proper commissioning and start-up of brownfield projects
- Ensure operational readiness in brownfield projects and carryout risk management in brownfield development and asset integrity management in brownfield facilities
- Carryout digitalization and automation in brownfield execution, cost management and budgeting in brownfield projects, brownfield-specific contract strategy and brownfield execution and troubleshooting

## Exclusive Smart Training Kit - H-STK®




*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

## Who Should Attend

This course provides a basic overview of all significant aspects and considerations of brownfield development and execution for environmental consultants, urban planners and developers, real estate developers, civil engineers, environmental engineers, property and asset managers, geotechnical engineers, construction managers, risk assessors and environmental auditors.

## Course Fee

**US$ 8,000** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

## Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

## Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

## Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

## Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



**Mr. Konstantin Zorbalas**, MSc, BSc, is a **Senior Petroleum Engineer & Well Completions Specialist** with **30 years** of **offshore** and **onshore** experience in the **Oil** & **Gas**, **Refinery** & **Petroleum** industries. His wide expertise includes **Brownfield Development & Execution, Brownfield** Projects: Planning, Engineering & Execution, **Brownfield** Modification & Revamp Projects, **Oil & Gas Facility** Development & Optimization, Mature **Field Development** & **Production** Optimization, **Field Development** Planning & **Project** Management, Oil & Gas Project Management & **Execution, Facility Modification**, Tie-In & Shutdown Planning, Production Facilities: **Operations, Modification & Optimization, Brownfield Project** Risk Management & **Execution, OIP Estimation & Range** of **Uncertainty**, **Waterflood** Management, **Water Flooding**, **Water Flooding & Reservoir** Sourcing Issues, **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Well & Reservoir Management** and Monitoring, **Fishing Operations**, **Drilling & Work-Over Operations**, **Workover Best Practices**, Well Testing, Completion Design & Operation, Well Stimulation and **Workover**, **Well Stimulation & Workover** Planning, **Well Completion**, **Servicing & Work-Over** Operations, **Completions & Workover**, HSE in **Work-Over & Drilling** Operations, **Well Testing Completion & Workover**, Basic **Drilling**, **Completion & Workover** Operations, Advanced **Drilling**, **Completion & Workovers Fluids**, **Cementing** Integrity Evaluation, **Cementing** Design, **Cement** Integrity Assurance & Evaluation, Basic **Cementing** (Operations) & Basic Acidizing, **Advanced** Cementing Technology, **Casing & Cementing, Advanced** Cementing & Stimulation, **Artificial Lift** Systems, New Technology in **Artificial Lift Systems**, **Artificial Lift** Methods, **Crude Oil Artificial Lift** Operations, **Artificial Lift** Systems, **Artificial Lift** & Challenges, **Artificial Lift** Systems & Optimization Technology, Production Optimization with **Artificial Lift** System, **Well Integrity & Artificial Lift**, **Formation Damage** & Flow Assurance Issues, **Formation Damage** Evaluation, Prevention, Remediation & Control, **Formation Damage** (Causes, Prevention & Remediation), **Well Completion** Design & Operations, Crude **Oil Market**, Oil **Reserves**, Global Oil **Supply & Demand**, Government Legislation & Oil **Contractual** Agreements, Oil **Projects & Their Feasibility** (Revenue and Profitability), Oil & Gas **Exploration** and **Methods**, Oil & Gas **Extraction**, Oil **Production & Refining**, Technology Usage in Industrial Security; **Oil & Gas Economics** Modelling Evaluation Decision Making & Risk Analysis, **Economic Evaluation** & Global Profitability Criteria, **Petroleum Economics**, Fluid Properties & Phase Behaviour (**PVT**), **Workovers & Completions**, Acidizing Application in **Sandstone & Carbonate**, **Well Testing** Analysis, **Reserves** Evaluation, **Reservoir** Fluid Properties, **Reservoir** Monitoring, **Heavy Oil** Technology, Applied **Water Technology**, **X-mas Tree & Wellhead** Operations & Testing, **Artificial Lift** Systems (**Gas Lift**, **ESP**, and **Rod Pumping**), **Well Cementing**, **Well Completion** Design, **Slickline** Operations, **Cased Hole Logging** and **Production Logging**. Further, he is actively involved in **Project Management** with special emphasis in production technology and field optimization, performing conceptual studies, economic analysis with risk assessment and field development planning. He is currently the **Senior Petroleum Engineer & Consultant** of **Abu Dhabi National Oil Company** (**ADNOC**) Group of companies wherein he is involved in the mega-mature fields in the Arabian Gulf, predominantly carbonate reservoirs; designing the acid stimulation treatments with post-drilling rigless operations; utilizing CT with tractors and DTS systems; and he is responsible for gas production and preparing for reservoir engineering and simulation studies, well testing activities, field and reservoir monitoring, production logging and optimization and well completion design.

During his career life, Mr. Zorbalas worked as a **Senior Production Engineer**, **Well Completion Specialist**, **Production Manager**, **Project Manager**, **Technical Manager**, **Trainer**, **Technical Supervisor** & **Contracts Manager**, **Production Engineer**, **Production Supervisor**, **Production Technologist**, **Technical Specialist**, **Business Development Analyst**, **Field Production Engineer** and **Field Engineer**. He worked for many **world-class oil/gas companies** such as **ZADCO**, **ADMA-OPCO**, **Oilfield International Ltd**, **Burlington Resources** (later acquired by **Conoco Phillips**), **MOBIL E&P**, **Saudi Aramco**, **Pluspetrol E&P SA**, **Wintershall**, **Taylor Energy**, **Schlumberger**, **Rowan Drilling** and **Yukos EP** where he was in-charge of the **design and technical analysis** of a gas plant with capacity **1.8 billion m3/yr gas**. His achievements include **boosting oil production 17.2% per year** since 1999 using **ESP** and **Gas Lift systems**.

Mr. Zorbalas has **Master's** and **Bachelor's** degrees in **Petroleum Engineering** from the **Mississippi State University**, **USA**. Further, he is an **SPE Certified Petroleum Engineer**, **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership & Management** (**ILM**), an active member of the Society of Petroleum Engineers (**SPE**) and has numerous scientific and technical publications and delivered innumerable training courses, seminars and workshops worldwide.

## Training Methodology

Our courses employ an interactive, learner-centred methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

## Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

## Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

| ***Day 1:*** | ***Sunday, 01st of November 2026*** |
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| *0730 – 0800* | *Registration & Coffee* |
| *0800 – 0815* | *Welcome & Introduction* |
| *0815 – 0830* | ***PRE-TEST*** |
| *0830 – 0930* | ***Introduction to Brownfield Projects***<br>*Definition & Significance of Brownfield Projects in the Petroleum Industry • Key Differences Between Brownfield & Greenfield Projects • Challenges & Opportunities in Brownfield Development • Approach to Brownfield Asset Management* |
| *0930 – 0945* | *Break* |
| *0945 – 1040* | ***Brownfield Redevelopment Strategies***<br>*Life Extension of Existing Facilities • Capacity Enhancement & Debottlenecking Projects • Repurposing & Re-Engineering Old Assets • Case Studies on Successful Redevelopment* |
| *1040 – 1135* | ***Assessing Brownfield Assets & Infrastructure***<br>*Structural Integrity & Condition Assessment of Existing Facilities • Evaluating Operational Efficiency & Safety Compliance • Identifying Bottlenecks & Constraints in Brownfield Operations • Framework for Asset Evaluation* |
| *1135 - 1230* | ***Regulatory & Environmental Considerations***<br>*Compliance with Health, Safety, & Environmental (HSE) Policies • Environmental Impact Assessments (EIA) for Brownfield Projects • Permitting & Regulatory Approval Challenges • Best Practices for Minimizing Environmental Footprint* |

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| 1230 - 1245 | Break |
| 1245 – 1335 | ***Project Management in Brownfield Development***<br>*Phases of Brownfield Project Execution • Risk Management in Project Planning • Coordination with Stakeholders & Regulatory Bodies • Project Management Methodologies* |
| 1335 - 1420 | ***Roles & Qualities of Successful Project Managers***<br>*Key Roles and Qualities of PM • Interface Management Skills • Risk Based thinking • Ownership Mentality • Staffing the Project Team • Risk Profile • Critical Capabilities* |
| 1420 – 1430 | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| 1430 | Lunch & End of Day One |

***Day 2: Monday, 02nd of November 2026***

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| 0730 – 0830 | ***Brownfield Stage Gate System***<br>*Typical Stage-Gate Structure for a Brownfield Project • Stage-Gate as a Governance System • Example at a FEED-to-Execution Gate* |
| 0830 - 0930 | ***Front-End Engineering Design (FEED) for Brownfield Projects***<br>*Importance of FEED in Brownfield Modifications • Scope Definition & Project Feasibility Studies • Risk Assessment & Safety Considerations • FEED Process for Brownfield Execution* |
| 0930 – 0945 | Break |
| 0945 – 1040 | ***Integration of New Systems with Existing Facilities***<br>*Challenges in Retrofitting New Equipment • Compatibility with Existing Infrastructure & Operations • Ensuring Minimal Disruption During Integration • Strategies for Seamless System Integration* |
| 1040 – 1135 | ***Operations Staff Buy-in***<br>*Importance in Brownfield Projects • Methods of Cooperation • Documentation – Start-up and Shut-down Practices – Production Critical Equipment* |
| 1135 - 1230 | ***Oversight Board for Issue Resolution***<br>*Importance in Brownfield Projects • Critical Issues to Reach the Board • Typical Board Composition* |
| 1230 - 1245 | Break |
| 1245 - 1420 | ***Case Studies on Brownfield Development***<br>*Lessons Learned from Past Projects • Success Stories & Challenges Faced • Strategies to Overcome Operational Constraints • Future Trends in Brownfield Project Execution* |
| 1420 – 1430 | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| 1430 | Lunch & End of Day Two |

**Day 3: Tuesday, 03rd of November 2026**

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| 0730 – 0830 | ***Planning & Scheduling for Brownfield Execution***<br>*Work Breakdown Structure (WBS) for Brownfield Projects • Gantt Charts & Timeline Development • Key Performance Indicators (KPIs) for Project Execution • Project Scheduling Framework* |
| 0830 – 0930 | ***Shutdown, Turnaround, & Tie-Ins***<br>*Planning & Execution of Shutdown Activities • Case Studies on Successful Upgrades and Expansion of facilities* |
| 0930 – 0945 | *Break* |
| 0945 – 1040 | ***Managing Simultaneous Operations (SIMOPS)***<br>*Risk Assessment & Coordination for SIMOPS • Conflict Resolution in Multiple Operational Activities • Ensuring Worker & Asset Safety During SIMOPS • Operational Procedures for Managing SIMOPS* |
| 1040 – 1135 | ***Brownfield Construction & Site Challenges***<br>*Working in Constrained & Live Operational Environments • Challenges in Procurement, Logistics and Material Handling • Safety Measures for Brownfield Construction Activities • Construction Management Best Practices* |
| 1135 - 1230 | ***Commissioning & Start-Up of Brownfield Projects***<br>*Pre-Commissioning & Commissioning Best Practices • Functional Testing & Performance Validation • Startup & Operational Handover Processes • Commissioning Standards for Brownfield Projects* |
| 1230 - 1245 | *Break* |
| 1245 - 1420 | ***Case Studies on Brownfield Construction Execution***<br>*Analysis of Brownfield Project Delays & Solutions • Lessons Learned from Commissioning & Startup Failures • Cost-Effective Construction Strategies for Brownfield Sites • Future Trends in Brownfield Construction Techniques* |
| 1420 – 1430 | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| 1430 | *Lunch & End of Day Three* |

**Day 4: Wednesday, 04th of November 2026**

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| 0730 – 0930 | ***Ensuring Operational Readiness in Brownfield Projects***<br>*Training & Competency Development for Operations Staff • Operations & Maintenance Coordination • HSE & Process Safety Considerations in Operational Readiness • Communications in an Operating Facility • Documentation & Standard Operating Procedures (SOPs) • Framework for Operational Readiness Assessment* |
| 0930 – 0945 | *Break* |
| 0945 - 1100 | ***Risk Management in Brownfield Development***<br>*Identifying Key Risks in Brownfield Modifications • Quantitative & Qualitative Risk Assessment Methods • Risk Mitigation Strategies for Brownfield Execution • Best Practices in Project Risk Management* |
| 1100 – 1230 | ***Asset Integrity Management in Brownfield Facilities***<br>*Lifecycle Assessment of Aging Infrastructure • Corrosion Control & Preventive Maintenance • Integrity Monitoring & Predictive Analytics • Asset Integrity Management Standards* |
| 1230 - 1245 | *Break* |

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| *1245 – 1330* | ***Digitalization & Automation in Brownfield Execution***<br>*Digital Twin Applications in Brownfield Redevelopment • Real-Time Monitoring & Predictive Maintenance Solutions • AI & Machine Learning Applications in Brownfield Operations • Digital Transformation Strategies for Brownfield Projects* |
| *1330 - 1420* | ***Cost Management & Budgeting in Brownfield Projects***<br>*Budget Estimation & Cost Control Strategies • Financial Risks Associated with Brownfield Execution • Cost-Benefit Analysis for Modification versus Replacement • Cost Optimization Strategies for Brownfield Projects* |
| *1420 – 1430* | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| *1430* | *Lunch & End of Day Four* |

***Day 5:*** ***Thursday, 05th of November 2026***

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| *0730 - 0930* | ***Brownfield-Specific Contract Strategy***<br>*Main types of Contracts and their Management • Examples of Hybrid Contracts • Interface-management Clauses • Performance-based Contracting in Brownfield Projects • Portfolio Framework* |
| *0930 – 0945* | *Break* |
| *0945 – 1100* | ***Hands-On Training: Brownfield Project Due Diligence***<br>*Cost, SIMOPS, "Go / No-Go", Shutdown Readiness • Involvement of Operations and Maintenance • Verification of Operational Envelope • Checklists* |
| *1100 – 1230* | ***Practical Session: Brownfield Engineering & Design Modifications***<br>*Evaluating an Upgrade in a Compression Station • Integrating Process & Equipment Changes • Designing Safety Enhancements for Brownfield Projects • Design Standards & Engineering Best Practices* |
| *1230 - 1245* | *Break* |
| *1245 - 1345* | ***Brownfield Execution Simulation & Troubleshooting***<br>*Managing Real-Time Project Execution Challenges • Problem-Solving for Construction & Tie-In Delays • Lessons Learned from Common Execution Pitfalls • Troubleshooting & Problem-Solving Framework* |
| *1345 - 1400* | ***Course Conclusion***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course* |
| *1400 – 1415* | ***POST-TEST*** |
| *1415 – 1430* | *Presentation of Course Certificates* |
| *1430* | *Lunch & End of Course* |

**Practical Sessions**

This practical and highly-interactive course includes real-life case studies and exercises:-



**Course Coordinator**

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