Training Course on Data Visualization and Dashboarding for Oil and Gas Decision Makers

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's data-intensive oil and gas industry, decision-making is increasingly driven by real-time insights and visual intelligence. Data Visualization and Dashboarding enable O&G professionals to interpret complex datasets swiftly, communicate key performance indicators (KPIs), and optimize operational and financial performance. Training Course on Data Visualization & Dashboarding for Oil & Gas (O&G) Decision Makers equips executives, analysts, and technical managers with cutting-edge skills in interactive dashboards, visual storytelling, predictive analytics, and energy intelligence to drive business-critical decisions.

With energy markets evolving rapidly, the need for actionable visual data, analytics-driven decisions, and digital transformation in O&G is more critical than ever. From upstream exploration to downstream logistics, this hands-on training provides participants with the tools and frameworks to build impactful dashboards using tools like Power BI, Tableau, and Python—all customized to real-world oil and gas applications. Each module integrates industry-specific use cases, performance dashboards, and scenario-based analytics to boost operational excellence and strategic foresight.

Programme Curriculum

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Course Objectives

1. Understand the role of data storytelling in oil & gas decision-making
2. Develop KPI-driven dashboards tailored to the O&G sector
3. Utilize Power BI and Tableau for real-time data analytics
4. Apply geospatial visualization for exploration & drilling analytics
5. Transform raw data into actionable business intelligence
6. Create interactive dashboards for operational monitoring
7. Integrate predictive analytics in O&G forecasting models
8. Leverage automated reporting and data pipelines
9. Visualize supply chain performance and bottlenecks
10. Use data visualization to support ESG & sustainability goals
11. Apply advanced charting techniques for financial analysis
12. Build role-specific dashboards for executives and engineers
13. Interpret visual analytics to drive digital oilfield decisions

Target Audience

1. Oil & Gas Executives
2. Petroleum Engineers
3. Business Intelligence Analysts
4. Data Scientists in Energy Sector
5. Operations Managers
6. IT and Digital Transformation Teams
7. ESG & Compliance Officers
8. Strategic Planning and Finance Professionals

Course Duration: 10 days

Course Modules

Module 1: Introduction to Data Visualization in Oil & Gas

- Importance of visualization in upstream, midstream, and downstream

- Types of data and dashboards in the oil and gas sector
- Key visualization tools: Power BI, Tableau, Excel
- Visual storytelling vs. traditional reporting
- Introduction to industry KPIs
- **Case Study**: Executive dashboard for production reporting

Module 2: Fundamentals of Power BI & Tableau

- Getting started with Power BI and Tableau
- Connecting to O&G data sources
- Building basic visualizations and filters
- Data blending and calculated fields
- Publishing dashboards and sharing insights
- **Case Study**: Daily operations dashboard for pipeline monitoring

Module 3: KPI Development and Visualization

- Identifying key KPIs for exploration, production, and HSE
- Creating custom measures and indicators
- Visualizing KPI trends over time
- Using bullet charts and gauges effectively
- Dashboard design for different roles
- **Case Study**: HSE compliance dashboard for upstream teams

Module 4: Geospatial & Map-Based Dashboards

- Integrating GIS and mapping tools
- Real-time location tracking in upstream assets
- Heatmaps and geofencing visualizations
- Visualizing drilling sites and rig performance
- Mapping incidents and logistics delays
- **Case Study**: Geospatial dashboard for rig analytics

Module 5: Advanced Charting and Storytelling Techniques

- Dual-axis and combination charts
- Visualizing correlations and outliers
- Designing dashboards for narrative impact
- Incorporating annotations and tooltips
- Data storytelling best practices
- **Case Study**: Investment pitch deck for offshore projects

Module 6: Real-Time Operational Dashboards

- Connecting to live data streams
- Monitoring equipment, flow, and temperature
- Visual alerts and threshold indicators

- Streaming analytics with Power BI
- Real-time vs. batch dashboarding
- **Case Study**: Offshore platform real-time monitoring system

Module 7: Data Cleaning & Preparation for Dashboards

- ETL processes in O&G datasets
- Handling missing, duplicated, and outlier data
- Integrating SCADA and IoT data
- Use of Power Query and Python for cleaning
- Data modeling best practices
- **Case Study**: Preprocessing sensor data for refinery KPIs

Module 8: Predictive Analytics and Forecasting

- Time series forecasting techniques
- Trend analysis and seasonality patterns
- Machine learning integration in dashboards
- Energy consumption and demand prediction
- Using Python in predictive dashboards
- **Case Study**: Predictive maintenance dashboard for pumps

Module 9: ESG and Sustainability Dashboards

- Tracking environmental performance indicators
- Carbon emissions visualization
- Water usage and waste management analytics
- Reporting for ESG compliance and transparency
- Interactive dashboards for sustainability officers
- **Case Study**: ESG performance dashboard for global reporting

Module 10: Financial and Cost Analytics Dashboards

- Budget vs. actual visualization
- Cash flow tracking with DAX or LOD
- CapEx and OpEx analysis
- Dashboarding for cost optimization
- Using waterfall and treemap charts
- **Case Study**: Monthly financial dashboard for CFOs

Module 11: Supply Chain & Logistics Visualization

- Inventory level tracking
- Shipping route visualizations
- Supplier performance dashboards
- Delivery lead time heatmaps
- SCM bottleneck identification

- **Case Study**: Real-time supply chain dashboard for LNG

Module 12: Drilling & Production Dashboards

- Monitoring daily production levels
- Downtime analytics and causes
- Visualizing drilling metrics (ROP, WOB, etc.)
- Comparing actual vs. planned output
- Interactive dashboards for drill site supervisors
- **Case Study**: Production optimization dashboard

Module 13: Executive and Boardroom Dashboards

- Designing dashboards for non-technical users
- Mobile-friendly dashboards
- Summarizing multiple KPIs in one view
- Visual best practices for CXOs
- Dynamic commentary and insights
- **Case Study**: Quarterly performance dashboard for board review

Module 14: Automation and Reporting with Dashboards

- Automating report refreshes
- Creating email alerts and scheduled reports
- Using Microsoft Flow and Tableau extensions
- Exporting and embedding dashboards
- Ensuring data governance and quality
- **Case Study**: Automated reporting pipeline for production data

Module 15: Final Capstone – Integrated O&G Dashboard

- Consolidating multiple modules into one interactive dashboard
- Cross-functional KPI tracking
- Real-time and historical views
- Stakeholder feedback and iteration
- Presentation techniques and best practices
- **Case Study**: Final project presentation on upstream-to-downstream dashboard

Training Methodology

- Instructor-led live online or in-person sessions
- Hands-on dashboard building using O&G datasets
- Interactive case study discussions per module
- Peer collaboration via group projects
- Real-time Q&A and troubleshooting support
- Capstone project for practical implementation

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com