BLACKBIRD FOR TRAINING

Business Intelligence, Data Analysis s Interactive Dashboard Development Using Excel and Power BI

7 December 2026 – 1 January 2027
Barcelona (Spain)



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Introduction

Welcome to the **Business Intelligence, Data Analysis s Interactive Dashboard Development Using Excel and Power BI** program.

In today's data-driven environment, organizations need effective tools to transform reports and raw data into meaningful visual insights that support informed decision-making.

This program is designed specifically to provide participants with practical knowledge and hands-on experience in using **Excel and Power BI** to organize, analyze, model, visualize, and present data without requiring a programming background.

The program is structured into **two progressive phases**, combining foundational knowledge with direct practical application. Participants will learn how to transform existing reports and datasets into interactive dashboards, calculate key performance indicators, use intelligent forecasting capabilities, automate reporting processes, and develop complete dashboards suitable for management and project-related decision-making.

Course Objectives



- Understand the fundamentals of **Business Intelligence BI** and its role in data-driven decision-making.
- Develop practical skills in using **Excel and Power BI** for data analysis and reporting.
- Learn how to collect, organize, consolidate, clean, and prepare data from different sources.
- Build effective **data models** and establish relationships between datasets.
- Calculate and monitor essential **Key Performance Indicators KPIs**.
- Transform raw reports and data into meaningful visual insights.
- Design professional and interactive dashboards using Power BI.
- Apply data analysis techniques to support project and program management decisions.
- Use Power BI's intelligent and AI-enabled capabilities for **forecasting and trend analysis**.
- Automate data updates and reporting processes to reduce manual work.
- Export and prepare reports for management presentation and decision-making.
- Develop a complete end-to-end interactive dashboard through practical application.
- Transfer knowledge and establish sustainable practices for continued application after the program.

Course Outlines

Phase One: Foundations of Business Intelligence, Excel s Power BI

Week 1: Business Intelligence, Excel s Data Preparation

Day 1: Introduction to Business Intelligence and Data Analysis

- Understanding the concept and importance of Business Intelligence BI.
- The role of data analysis in management and decision-making.
- From raw data to information, insights, and actionable decisions.
- Introduction to Excel and Power BI as business intelligence and data analysis tools.
- Understanding different types and sources of organizational data.
- Identifying data requirements for management and project reporting.
- Best practices for preparing data for analysis.
- Practical exercises using sample business and project data.

Day 2: Data Organization and Consolidation Using Excel



- Importing and organizing data in Excel.
- Structuring datasets for effective analysis.
- Consolidating data from multiple reports and sources.
- Identifying and correcting common data quality issues.
- Handling missing, duplicate, and inconsistent data.
- Using Excel functions and tools for data preparation.
- Introduction to Pivot Tables and Pivot Charts.
- Practical application using project and performance data.

Day 3: Data Cleaning and Transformation with Power Query

- Introduction to Power Query.
- Importing data from Excel and other sources.
- Cleaning and transforming raw datasets.
- Removing duplicates and correcting data inconsistencies.
- Splitting, merging, and transforming columns.
- Combining multiple datasets through Merge and Append.
- Preparing reusable data transformation steps.
- Practical exercises in preparing data for Power BI.

Day 4: Introduction to Power BI

- Understanding the Power BI environment.
- Power BI Desktop and its main components.
- Importing Excel data into Power BI.
- Connecting Power BI to different data sources.
- Understanding Data, Model, and Report views.
- Creating basic visualizations.
- Using filters, slicers, and interactive elements.
- Building a basic Power BI report.

Day 5: Practical Data Analysis Project

- Importing and preparing a complete dataset.
- Organizing and cleaning project-related data.
- Creating basic analytical views.
- Developing summary reports and visualizations.
- Identifying trends and performance indicators.
- Practical case study combining Excel and Power BI.
- Review and assessment of Phase One learning.

Week 2: Data Modeling, KPIs s Business Analysis



Day 6: Building Effective Data Models

- Understanding data modeling concepts.
- Creating relationships between tables.
- Understanding primary and related data fields.
- Designing effective data structures for Power BI.
- Introduction to Star Schema concepts.
- Connecting project, budget, resource, and performance datasets.
- Identifying and resolving common modeling issues.
- Practical data modeling exercises.

Day 7: Calculations, Measures and KPI Development

- Introduction to calculations and measures in Power BI.
- Understanding the role of DAX in data analysis.
- Creating basic calculated measures.
- Developing Key Performance Indicators KPIs.
- Project progress and completion indicators.
- Budget and cost performance indicators.
- Schedule and performance indicators.
- Resource and operational performance indicators.
- Practical KPI development exercises.

Day 8: Data Visualization and Reporting

- Principles of effective data visualization.
- Selecting the appropriate visualization for different data types.
- Creating charts, cards, tables, and KPI indicators.
- Using filters and slicers effectively.
- Drill-down and drill-through functionality.
- Presenting complex data in a simple and understandable way.
- Developing management-oriented reports.
- Practical visualization exercises.

Day G: Business Analysis and Decision Support



- Converting data into meaningful business insights.
- Identifying trends, patterns, and performance gaps.
- Actual vs. planned analysis.
- Variance analysis.
- Using KPIs to identify areas requiring management attention.
- Using dashboards to support decision-making.
- Applying BI techniques to program and project management.
- Practical decision-support exercises.

Day 10: Phase One Integrated Practical Application

- Working with an integrated project dataset.
- Data preparation and transformation.
- Building a complete data model.
- Developing KPIs and analytical measures.
- Creating visual reports.
- Interpreting analytical results.
- Presenting findings and recommendations.
- Review and preparation for Phase Two.

Phase Two: Advanced Power BI, AI Forecasting, Interactive Dashboards s Reporting Automation

Week 3: Advanced Analytics, Forecasting s Dashboard Development

Day 11: Advanced Power BI Analysis

- Advanced data analysis techniques in Power BI.
- Enhancing data models for analytical reporting.
- Developing advanced measures and calculations.
- Trend and variance analysis.
- Comparative performance analysis.
- Identifying patterns and exceptions.
- Analyzing project and program performance.
- Practical advanced analytics exercises.

Day 12: Interactive Dashboard Design



- Principles of professional dashboard design.
- Designing management and executive dashboards.
- Creating interactive navigation and reporting pages.
- Advanced use of slicers and filters.
- Drill-down and drill-through analysis.
- Bookmarks and interactive navigation.
- Creating user-friendly dashboard layouts.
- Designing dashboards for different management levels.

Day 13: Project s Program Management Dashboards

- Designing a Project Performance Dashboard.
- Project progress monitoring.
- Budget and cost monitoring.
- Planned vs. actual performance.
- Schedule performance analysis.
- Resource utilization monitoring.
- Portfolio and program performance reporting.
- Risk and issue monitoring.
- Developing PMO-focused visual reports.

Day 14: Intelligent Forecasting and AI Capabilities

- Introduction to predictive analytics and intelligent forecasting.
- Understanding historical trends and forecasting requirements.
- Using Power BI forecasting capabilities.
- Predicting future performance based on historical data.
- Forecasting project progress and performance.
- Identifying expected cost and schedule trends.
- Using AI-enabled analytical features to identify patterns and insights.
- Interpreting forecasting results for management decisions.
- Practical forecasting exercises.

Day 15: Advanced Dashboard Practical Application

- Developing an interactive dashboard from a complete dataset.
- Combining KPIs, charts, filters, and analytical insights.
- Integrating forecasting results into dashboards.
- Creating management-level views.
- Improving dashboard usability and visual presentation.
- Testing dashboard functionality.
- Practical case study and review.



Week 4: Reporting Automation, Decision-Making s Final Project

Day 16: Reporting Automation and Data Refresh

- Introduction to reporting automation.
- Automating repetitive reporting activities.
- Data refresh and updating processes.
- Maintaining reliable data connections.
- Reducing manual reporting tasks.
- Preparing recurring management reports.
- Automating report preparation and distribution workflows.
- Practical automation exercises.

Day 17: Report Exporting, Sharing s Management Reporting

- Preparing Power BI reports for management use.
- Exporting data and reports into appropriate formats.
- Sharing dashboards and reports.
- Preparing presentation-ready management reports.
- Organizing reports for different stakeholders.
- Creating concise executive reporting views.
- Best practices for report accessibility and usability.

Day 18: Data-Driven Decision-Making

- Using dashboards to support strategic and operational decisions.
- Interpreting KPIs and performance indicators.
- Identifying performance gaps and emerging risks.
- Using forecasting results to support planning.
- Converting analytical findings into recommendations.
- Supporting program and project management decisions through BI.
- Practical management decision-making scenarios.

Day 1G: Complete Interactive Dashboard Development



- Developing a complete dashboard from raw data to final presentation.
- Importing and cleaning the data.
- Building the data model.
- Creating KPIs and analytical measures.
- Developing interactive visualizations.
- Integrating forecasting and analytical insights.
- Applying dashboard design principles.
- Preparing the final management dashboard.
- Testing and refining the complete solution.

Day 20: Final Practical Project s Knowledge Transfer

- Implementing a complete end-to-end Business Intelligence solution.
- Analyzing a real-world or organization-relevant dataset.
- Building a complete interactive Power BI dashboard.
- Presenting KPIs and key findings.
- Applying forecasting and decision-support techniques.
- Demonstrating reporting and automation capabilities.
- Presenting the final project to the group.
- Final assessment and feedback.
- Knowledge transfer and best practices for sustainable application.
- Developing recommendations for continued use of Excel and Power BI within the PMO.

Why Attend This Program?



- **Master Excel s Power BI:** Develop practical skills in two essential tools for data analysis and Business Intelligence.
- **Transform Reports into Dashboards:** Learn how to convert traditional reports and raw data into interactive visual dashboards.
- **Improve Decision-Making:** Use KPIs, analytical insights, and forecasting to support better management decisions.
- **Develop PMO-Focused Analytics:** Apply Business Intelligence techniques to program and project management data.
- **Use AI for Forecasting:** Explore intelligent forecasting capabilities to identify trends and anticipate future performance.
- **Automate Reporting:** Reduce manual reporting activities through data refresh and reporting automation techniques.
- **Build Practical Skills:** Apply the concepts through continuous hands-on exercises and real-world scenarios.
- **No Programming Background Required:** The program focuses on practical business applications using Excel and Power BI without requiring programming knowledge.
- **Complete a Real-World Project:** Build a complete interactive dashboard from data preparation through final presentation.
- **Ensure Knowledge Transfer:** Develop sustainable practices that participants can continue applying after completing the program.

Conclusion

By completing this program, participants will be able to transform raw data and existing reports into meaningful, interactive, and management-ready dashboards using **Excel and Power BI**.

They will develop practical capabilities in **Business Intelligence, data organization, data modeling, KPI development, visualization, forecasting, reporting automation, and decision support**. Through the two-phase structure, participants will first establish a strong foundation in data analysis and BI tools and then progress to advanced practical application through complete dashboard development and knowledge transfer.

The final outcome will be a practical and sustainable capability within the **Program and Project Management Office**, enabling participants to independently analyze data, monitor performance, automate reporting, and provide visual insights that support effective management and decision-making.

F&A

What is Business Intelligence BI, and how does it support decision-making?



Answer: BI helps organizations transform raw data into meaningful insights, reports, and dashboards that support better and faster decision-making.

How can Excel and Power BI be used together for data analysis?

Answer: Excel can be used to organize, clean, and prepare data, while Power BI can transform the data into interactive visualizations, KPIs, and dashboards.

How can Power BI help monitor project and program performance?

Answer: Power BI can track KPIs such as project progress, budget, cost, schedule, resources, and performance through interactive dashboards.

How can AI and forecasting capabilities improve data-driven decisions?

Answer: AI and forecasting can analyze historical data, identify trends and patterns, and help predict future performance, costs, or project outcomes.

How can reporting and dashboards be automated using Power BI?

Answer: Power BI can automate data refresh and reporting processes, reducing manual work and enabling users to maintain updated dashboards and management reports.

