



*Training Course:
Geographic Information Systems (GIS)*

*7 - 11 September 2026
Madrid (Spain)*

Training Course: Geographic Information Systems (GIS)

Training Course code: SC235683 From: 7 - 11 September 2026 Venue: Madrid (Spain) - Training Course Fees: 6300 € Euro

Introduction

Geographic Information Systems GIS are integral to modern data management, analysis, and decision-making processes across a variety of industries. This 5-day comprehensive training program is designed to equip participants with foundational and advanced GIS concepts, practical applications, and strategic insights. Attendees will gain hands-on experience with GIS software and tools, explore data collection and management techniques, and develop problem-solving skills for spatial challenges.

Target Audience

- GIS professionals seeking to enhance their skills.
- Urban planners, environmental scientists, and engineers.
- Decision-makers in public and private sectors.
- Academic researchers and students in related fields.
- Professionals interested in spatial data analysis and visualization.

Objectives

By the end of the program, participants will be able to:

1. Understand the core concepts of GIS and spatial data.
2. Utilize GIS tools for mapping, data analysis, and visualization.
3. Perform geospatial analysis to support decision-making.
4. Integrate GIS with other data management systems.
5. Apply GIS techniques to real-world scenarios in various industries.

Outlines

Day 1:

Introduction to GIS

- Key Topics:

- Overview of GIS: History and Evolution.
 - Components of GIS: Hardware, Software, Data, People, and Methods.
 - Understanding Geospatial Data Types: Vector vs Raster.
 - GIS Software Overview: ArcGIS, QGIS, and Others.
 - Hands-on Session: Introduction to GIS Software Interface.
- **Outcome:** Participants gain familiarity with GIS basics and software interfaces.

Day 2:

Spatial Data Collection and Management

- **Key Topics:**
 - Data Sources: Remote Sensing, Surveys, GPS, and Open Data.
 - Data Quality, Accuracy, and Standards.
 - Managing Spatial Databases: SQL for GIS.
 - Hands-on Session: Importing and Managing Spatial Data.
- **Outcome:** Ability to source, validate, and manage geospatial data effectively.

Day 3:

Geospatial Analysis and Modelling

- **Key Topics:**
 - Techniques in Spatial Analysis: Buffering, Overlay, and Spatial Queries.
 - Modelling and Predictive Analysis.
 - Geostatistics: Interpolation and Trend Analysis.
 - Hands-on Session: Performing Basic and Advanced Spatial Analyses.
- **Outcome:** Mastery of geospatial analysis tools and techniques.

Day 4:

Cartography and Visualization

- **Key Topics:**

- Principles of Effective Cartography: Map Design and Layouts.
- Visualizing Data for Decision Support.
- 3D Mapping and Visualization.
- Hands-on Session: Creating Maps and Visual Representations.
- **Outcome:** Develop visually appealing and informative GIS maps.

Day 5:

Advanced Applications and Future Trends

- **Key Topics:**
 - Integration of GIS with AI, IoT, and Big Data.
 - Applications in Urban Planning, Environmental Management, and Logistics.
 - Trends in Web GIS and Mobile GIS.
 - Case Studies and Real-World Applications.
 - Workshop: Building a GIS Project from Start to Finish.
- **Outcome:** Participants apply their skills to a comprehensive GIS project.

Registration form on the Training Course: Geographic Information Systems (GIS)

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