Strategic AI and Big Data for Public Sector Decisions Training Course



21 - 25 Dec 2026

Madrid

5900 € (Per Person)

Ref: #GOV8129_103053

Course Introduction / Overview:

This course provides a comprehensive exploration of how Artificial Intelligence (AI) and Big Data analytics are revolutionizing public sector operations and policymaking. In an era of digital transformation, governments are increasingly leveraging data-driven insights to enhance service delivery, optimize resource allocation, and create more effective, evidence-based policies. This program is designed to demystify the complexities of AI and big data, offering a clear roadmap for public sector professionals to harness these powerful technologies responsibly and strategically. As Viktor Mayer-Schönberger discusses in his influential book, "Big Data: A Revolution That Will Transform How We Live, Work, and Think," the value lies not just in the volume of data but in the innovative ways it can be used to solve complex societal problems. BIG BEN Training Center has developed this curriculum to bridge the gap between technological potential and practical government application, focusing on real-world case studies, ethical considerations, and the development of a data-driven culture within public institutions. Participants will move beyond theoretical concepts to gain practical skills in data governance, predictive analytics, and strategic implementation, empowering them to lead digital transformation initiatives within their organizations and improve outcomes for the citizens they serve.

Target Audience / This training course is suitable for:

- Government Officials and Public Sector Managers.
- Policy Analysts and Advisors.
- Strategic Planners and Performance Managers.
- IT and Data Professionals in Government.
- Public Finance and Budget Officers.
- Law Enforcement and Intelligence Analysts.
- Public Health Administrators.
- Urban Planners and Smart City Project Managers.

Target Sectors and Industries:

- Federal, State, and Local Government Agencies.
- Public Administration and Governance Bodies.
- Defense and National Security Sectors.
- Public Healthcare and Social Services.
- Law Enforcement and Judiciary Systems.
- Public Education and Research Institutions.
- Public Utilities and Transportation Authorities.
- Non-Governmental Organizations (NGOs) working with public data.

Target Organizations Departments:

- Policy and Strategy Departments.
- Information Technology (IT) and Data Management Units.
- Finance and Budgeting Departments.
- Operations and Service Delivery Units.
- Research and Development Divisions.
- Human Resources and Workforce Planning.
- Audit and Compliance Departments.
- Communications and Public Engagement Teams.

Course Offerings:

By the end of this course, the participants will have able to:

- Articulate the fundamental concepts of AI, machine learning, and big data within a public sector context.
- Develop a robust data governance framework that ensures data quality, security, and privacy.
- Evaluate the ethical implications and potential biases of using AI in government decision-making.
- Apply various data analytics and visualization techniques to extract actionable insights from public data.
- Utilize predictive analytics to forecast trends and inform proactive policy interventions.
- Design and manage AI and big data projects tailored to specific public service challenges.
- Formulate a strategic plan for integrating data-driven decision-making into their organization's culture.
- Communicate complex data insights effectively to non-technical stakeholders and policymakers.
- Assess the impact of AI on public service delivery and citizen engagement.
- Navigate the legal and regulatory landscape surrounding the use of data in the public sector.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and directly applicable to the challenges faced by public sector professionals. We move beyond traditional lectures to create an immersive learning environment that fosters critical thinking and collaborative problem-solving. The course heavily relies on real-world government case studies from around the globe, allowing participants to analyze successful implementations and learn from the challenges others have faced. Interactive sessions, including group discussions, brainstorming workshops, and scenario-based exercises, ensure that participants are actively engaged in the learning process. A significant portion of the course is dedicated to hands-on activities where participants will work with sample public datasets to practice data analysis and visualization techniques. Our expert instructors facilitate a dynamic environment, providing continuous feedback and encouraging peer-to-peer learning. This blended approach ensures that participants not only grasp the theoretical foundations of AI and big data but also develop the confidence and practical skills needed to apply their new knowledge directly to their work, driving meaningful change within their organizations.

Course Agenda (Course Units):

Unit One: Foundations of Data-Driven Governance

- Introduction to AI, Machine Learning, and Big Data.
- The Role of Data in Modern Public Administration.
- Understanding the Big Data Ecosystem in Government.
- From Traditional Reporting to Predictive Analytics.
- Key Principles of Evidence-Based Policymaking.
- Challenges and Opportunities for AI in the Public Sector.
- Case Study: Transforming Public Service Delivery with Data.

Unit Two: Data Management and Governance for the Public Sector

- Establishing a Government Data Governance Framework.
- Data Acquisition, Cleansing, and Integration Strategies.
- Ensuring Data Quality and Integrity.
- Public Sector Data Security and Cybersecurity Protocols.
- Navigating Data Privacy Regulations (e.g., GDPR, CCPA).
- Principles of Open Data and Data Sharing.
- Ethical Data Handling and Algorithmic Transparency.

Unit Three: Applying AI and Analytics to Public Policy

- Descriptive, Diagnostic, Predictive, and Prescriptive Analytics.
- Introduction to Machine Learning Models for Policy Analysis.
- Natural Language Processing (NLP) for Analyzing Public Records and Feedback.
- Data Visualization and Storytelling for Policymakers.
- Predictive Analytics for Resource Allocation and Budgeting.
- AI for Fraud Detection and Compliance Monitoring.
- Case Study: Using AI to Improve Public Health Outcomes.

Unit Four: Strategic Implementation of AI in Government

- Developing a Public Sector AI and Data Strategy.
- Building a Data-Literate Culture within Your Organization.
- Managing AI Projects from Pilot to Full-Scale Implementation.
- Stakeholder Engagement and Change Management.
- Measuring the ROI and Impact of Data Initiatives.
- Overcoming Institutional and Bureaucratic Barriers.
- Public-Private Partnerships for GovTech Innovation.

Unit Five: The Future of AI, Ethics, and Public Trust

- Emerging Trends in AI and GovTech.
- Addressing Algorithmic Bias and Fairness in Public Services.
- Ensuring Accountability and Explain ability in AI Systems (XAI).
- The Future of Citizen Engagement and Co-creation with AI.
- AI's Role in Smart Cities and Sustainable Development.
- Developing a Personal Action Plan for Leading Data Initiatives.
- Capstone Project: Designing a Data-Driven Solution for a Public Sector Problem.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can public sector organizations balance the efficiency gains from AI-driven decision-making with the imperative to maintain transparency, accountability, and public trust?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by moving beyond a purely technical or commercial focus on AI and big data, offering a curriculum specifically tailored to the unique context and responsibilities of the public sector. Unlike generic data science programs, every module, case study, and discussion is framed within the realities of government operations, including regulatory constraints, public accountability, and the imperative of ethical governance. We emphasize strategic thinking and policy application over mere tool proficiency, empowering leaders to ask the right questions of their data and technical teams. The curriculum delves deeply into the nuances of data governance, algorithmic bias, and transparency, which are critical for maintaining public trust. Furthermore, the course fosters a holistic understanding by integrating modules on change management and building a data-literate culture, recognizing that successful implementation is as much about people and processes as it is about technology. Participants will not just learn what AI can do; they will learn how to implement it responsibly and effectively to solve real-world public problems and enhance citizen services, making it an invaluable strategic asset for any public sector professional.