# SUSTAINABLE CITIES, SMART INFRASTRUCTURE AND URBAN RESILIENCE COURSE

## Introduction

The Executive Course in Sustainable Cities, Smart Infrastructure and Urban Resilience equips senior government officials, urban planners, city managers, engineers, infrastructure developers, policymakers, and development practitioners with the strategic knowledge and practical tools required to design, develop, and manage smart, inclusive, resilient, and sustainable cities. Participants will gain competencies in climate-smart urban planning, resilient infrastructure development, sustainable transport systems, smart public services, digital governance, green infrastructure, urban risk management, and ESG integration within city development. Rapid urbanization, population growth, climate change, aging infrastructure, technological disruption, and increasing demand for quality public services are transforming how cities are planned, governed, and managed. Cities now account for more than half of the world's population and are responsible for a significant share of global economic activity, greenhouse gas emissions, and resource consumption. Consequently, governments, municipalities, urban planners, and infrastructure developers must embrace integrated approaches that promote sustainability, resilience, innovation, and inclusive urban growth. The programme explores sustainable urban planning, smart mobility, climate adaptation, disaster-resilient infrastructure, digital transformation, renewable energy integration, circular economy principles, public-private partnerships, municipal finance, stakeholder engagement, and urban performance management. The programme aligns with internationally recognized frameworks including the United Nations Sustainable Development Goals (SDGs), particularly SDG 11 (Sustainable Cities and Communities), the New Urban Agenda, Paris Agreement, ISO 37120 Sustainable Cities, ISO 37123 Resilient Cities, ISO 37122 Smart Cities, and the Sendai Framework for Disaster Risk Reduction.

## Course Objectives

- Understand sustainable city development and smart city principles.
- Design climate-resilient and inclusive urban development strategies.
- Integrate ESG principles into urban planning and infrastructure projects.
- Strengthen governance for smart cities and sustainable public service delivery.
- Improve sustainable transport systems and urban mobility.
- Enhance infrastructure resilience against climate and disaster risks.
- Apply digital technologies to improve city management and public services.
- Mobilize sustainable financing for urban development initiatives.
- Monitor urban sustainability performance using global indicators.
- Lead city transformation through innovation, resilience, and strategic governance.

## Course Modules

**> Module 1: Foundations of Sustainable Cities and Smart Urban Development**
- Principles of sustainable urban development
- Smart city concepts and global trends
- ESG in urban governance
- Urban sustainability frameworks

**> Module 2: Sustainable Urban Planning and Integrated Land Use Management**
- Integrated urban planning
- Land use and spatial planning
- Inclusive urban development
- Compact and transit-oriented development

**> Module 3: Smart Infrastructure and Climate-Resilient Urban Systems**
- Climate-resilient infrastructure design
- Green infrastructure solutions
- Critical infrastructure resilience
- Nature-based urban solutions

**> Module 4: Sustainable Transport Systems and Smart Mobility**
- Sustainable urban mobility planning
- Intelligent transport systems
- Green public transport
- Non-motorized transport infrastructure

**> Module 5: Smart Governance, ESG and Sustainable Public Service Delivery**
- Smart governance principles
- Digital government and citizen engagement
- ESG integration in municipal governance
- Performance-driven public service delivery

**> Module 6: Urban Climate Action, Disaster Risk Reduction and Resilience**
- Urban climate adaptation
- Disaster risk reduction strategies
- Emergency preparedness in cities
- Community resilience planning

**> Module 7: Urban Finance, Green Investment and Public-Private Partnerships**
- Municipal finance strategies
- Green bonds and climate finance
- Public-private partnerships (PPPs)
- Sustainable infrastructure investment

**> Module 8: Digital Transformation, Smart Technologies and Data Analytics**
- Internet of Things (IoT) for smart cities
- Artificial Intelligence and city management
- Geographic Information Systems (GIS)
- Urban data analytics and dashboards

**> Module 9: Circular Economy, Resource Efficiency and Environmental Sustainability**
- Circular economy in urban development
- Waste management and resource recovery
- Renewable energy integration
- Water security and sustainable resource management

**> Module 10: Developing a Sustainable City and Urban Resilience Strategy**
- Urban sustainability maturity assessment
- City resilience roadmap
- Implementation and governance framework
- Monitoring, evaluation and continuous improvement



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