



## Panel Discussion 1

# Resilient & Smart Infrastructure

### Panel Brief

As climate change, urban expansion, and unforeseen disruptions increasingly test the limits of existing systems, the concept of infrastructure must evolve beyond physical assets to dynamic, adaptive networks. This panel explores how resilient and smart infrastructure can be designed, managed, and financed to ensure long-term sustainability, reliability, and inclusiveness.

Building resilience into core sectors—energy, water, waste, and utilities—is now a strategic imperative. Resilient systems must anticipate and absorb shocks while continuing to deliver essential services. Simultaneously, the integration of digital technologies, nature-based solutions, and innovative financing mechanisms can redefine how infrastructure is planned, maintained, and governed.

Through this discussion, the panel seeks to unpack interdisciplinary approaches that combine engineering innovation, climate-responsive design, AI and digital tools, and policy-financial frameworks to make infrastructure future-ready and adaptable to both known and emerging risks.

### Key Discussion Points

How can critical infrastructure systems—energy, water, waste, and utilities—be made resilient and future-proof against climate and systemic disruptions?

---

What climate-responsive and nature-based design principles can enhance urban resilience to floods, heat, and environmental stresses?

---

How can emerging technologies such as AI, IoT, and digital twins transform infrastructure monitoring, maintenance, and decision-making?

---

What innovative financing mechanisms—ESG investments, green bonds, PPP models—can accelerate the development of resilient and sustainable infrastructure?

---

How can governance frameworks and institutional reforms embed resilience and sustainability into national infrastructure planning and implementation?

---

What collaborative models can integrate technology, policy, and finance to build adaptive, inclusive, and climate-resilient infrastructure systems?