Critical Infrastructure Resolution

2025 UN Science, Technology, and Innovation Forum (STI Forum)

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Scientists and engineers are responsible for envisioning, creating, integrating, and building innovations in critical infrastructure that sustain and improve the building blocks of civilization. The World Federation of Engineering Organizations (WFEO) representing over thirty million engineers in over 100 countries and the International Science Council (ISC), which federates over 250 scientific organizations around the world, are dedicated to accelerating the SDGs, ensuring that the best available knowledge, technologies and tools based on sound principles and evidence are leveraged to build safe, secure, and resilient infrastructure that will leave no one behind.

The following were discussed and resolved at the 2025 STI Forum:

- Basic and applied research is essential to the advancement of science and engineering, especially in this time of exponential change driven by AI and its supercluster of technologies that necessarily accompany its rise.
- Interdisciplinary and cross disciplinary scientific approaches are equally vital to ensuring effective development, decision-making, and implementation around infrastructural solutions, accounting for synergies and trade-offs while ensuring that solutions are contextually appropriate.
- Technological innovations in science and engineering offer new opportunities to enhance the quality, long-term use, reliability, and sustainability of infrastructure.
- Demand for sustainable and resilient infrastructure will be ever growing from developing countries where the populations are rising, and urbanization is overwhelming existing infrastructure, and the hallmark of critical infrastructure is that it is inclusive, accessible, and affordable to all.
- Currently, there is approximately $3+ trillion invested a year in infrastructure and it is vital that it be built to withstand the climate risks that are predicted to occur over the decades of its life cycle.
- Natural threats, such as floods, fires, droughts, heat, hurricanes, cyclones, tsunamis, and extreme weather, are exacerbated when the infrastructure is in a poor state of repair as witnessed in many countries around the world.
- Cyber threats to the physical infrastructure, such as clean water storage and supply systems; electrical power generation facilities, sub stations, transmission lines; undersea communication and fiber optic cables; seaports; airports; and

telecommunications systems are a gathering storm that is increasing in probability and worsened by insufficient attention and priority.

- While prevention and protection are the first order of defense, priority must be given to resilience from both natural and manmade disasters.
- AI and its cluster of frontier technologies will need to be leveraged to accelerate SDGs and thereby the beneficial use for both humans and the planet. In this context, there is urgent need to enhance international cooperation to build necessary capacity of AI for implementing the Global Digital Compact.
- Strengthened science-policy interfaces are crucial to ensuring evidence-informed decision-making and effective engineering solutions. The STI Forum must play a central role in facilitating meaningful exchange between scientists, engineers, and decision-makers.

No matter the geopolitical environment, the global scientific and engineering community stands firm on coordination, collaboration, and implementation for the benefit of society immaterial of its location.

We as the Scientific, Engineering and Technological Community have a moral and ethical responsibility to ensure our work supports the public good. We hereby commit to finding ways to build the critical infrastructure of the future that is in harmony with the basic needs of civilization and the great life support systems of the planet, thereby helping to accelerate progress toward the Sustainable Development Goals.