Quality-Infrastructure of India

A quality-infrastructure of a Nation is comprised of internationally recognized metrology, standards and accreditation, which essentially is the basic enabling system of a nation for providing the conformity assessment (calibration and testing, certification and inspection). A robust quality infrastructure is built on a technical hierarchy and is essential for forming effective national policies and their implementation, to attract foreign investments, industrial development, international trading of products, food safety, environment and climate change, health, and efficient utilization of natural and human resources. As a result, a strong quality infrastructure contributes to the national economy and brings prosperity, health and well-being.

In this talk, I will present recent contributions made by National Physical Laboratory - the National Metrology Institute of the country, in establishing several primary/national measurements essential for the national quality-infrastructure. Some of these include: generation of Indian Standard Time (IST) with 7 ns accuracies using primary atomic clocks and its dissemination to ISRO for the indigenously fabricated-GPS (NAViC) applications, development of various Indian certified reference materials - trademarked as Bhartiya Nirdeshak Dravya (BND®) in the areas of water, gas, cement, petroleum, gold, coal etc, primary standards for the calibrations of air pollutants, biomedical equipment, fluid flow, etc.