Engineering education has been recognized globally as the vehicle for national development and global competitiveness. It needs, however, a major re-think in the “flattening” world: It is often quoted: “We are currently preparing students for jobs that don’t yet exist, using technologies that haven’t yet been invented, in order to solve problems we don’t even know are problems yet”.

The distinctive characteristics of the 21st century include: Change – in magnitude as well as velocity and acceleration; depletion of natural resources, both of energy and materials; environmental degradation – of air, water and soil; demand for mass education; significant impact of technology on: society, commerce, lifestyle, education and entertainment; widening disparities in society – digital divide, technology divide, prosperity divide, education divide; social tensions; globalization.

There are significant changes in the practice of engineering as a profession in the 21st century: constraints imposed by environmental considerations; customization demanded by diverse customers; opportunities offered by technology developments in several sectors; availability of sophisticated diagnostic and computational tools; wide choice of materials; implications of globalization, such as innovation as the basis of competitiveness.

The different stakeholders in the engineering system have differing requirements and expectations: employers demand immediate application of knowledge and skills acquired and productivity; students require both immediate employment and long-term employability; parents desire prosperous careers for their wards; and the teachers expect effective learning by students.

Some of the contemporary issues in engineering education include the (generation) gap between: those who teach and those who learn; those who recruit and those who seek jobs; those who frame policies and those who function within the system; and theory and practice of assessment of learning, and of performance on the job. How do we close these gaps?

There are significant reasons for redesigning the engineering education systems in both developed and developing countries: The inputs, output requirements, the environment and ambience, have all changed considerably over the years, and new models of learning have emerged. Innovation and commercialization of university R&D are gaining in importance.

The Indian engineering education system is characterized by: huge size; many asymmetries and divides; diversity (of many types); variable quality; frequent changes of policy; much international collaboration; many strengths and weaknesses; many opportunities and challenges. Several strategies are being put in place to address the different priority areas. Four of the major challenges are: increasing capacity; improving quality; internationalizing engineering education and R&D.

Some of the current tensions include: science vs. engineering as a study option; core engineering vs. IT as job option; private sector vs. public sector careers; generalist vs. specialized institutions/universities; teaching-intensive vs. research-led institutions; capacity expansion vs. quality assurance.
India aims to progress from being a provisional member of the Washington Accord to a full-fledged member, and has accordingly been redesigning its accreditation systems and processes to be Washington Accord compliant. Country-wide awareness and training workshops are being organized. It is intended to bring in legislation to integrate the different accreditation systems in the country, such as technical education, higher education, medical education, and legal education.

Accreditation is a driving force for change in our engineering education systems and processes. It provides a direction to the institution and its faculty, students, and leadership. The mandatory peer review mechanism enables an outside-in view of the institution; an opportunity for review and reflection of the activities and performance, and enables a prioritization of activities. Periodic accreditation prevents complacency and creates an Institution “on the move”. Accreditation processes serve as both change agents as well as catalysts in engineering education, in particular, for promoting quality in all academic systems and processes.

The recent annual publication of World University Rankings by Shanghai University’s Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and Quacquarelli Symonds (QS) is having a profound impact on the policies and practices of universities worldwide. Ellen Hazelkorn, in her recent book *Rankings and the Reshaping of Higher Education: The Battle for World-Class Excellence*, 2011, points out that:

- “Rankings are arguably having a more profound impact on higher education and the construction of knowledge.”
- “HEIs are responding to league tables and rankings (LTRS), which are having an impact or influence — positive or perverse — on institutional behavior, decision-making and actions”.
- “Rankings demonstrate the new environment of higher education, and act as a driver of change”.