

Lecture Series in
Science, Technology & Innovation

by

Dr R A Mashelkar, FRS
Sir Louis Matheson Distinguished Professor
(April-May 2022)

Lecture-1: Technology Dynamism in our Post Pandemic Future

Date: 10th May, 2022 – Time 11.30 am – 1.30 pm
(Venue: Room G29-G30, Ground Floor, New Horizons).

The pandemic profoundly affected our lives, livelihoods and economies like never before. But the pandemic also witnessed the amazing power of human spirit and determination through the demonstration of acceleration of technology development and deployment with unprecedented speed, scale and scope.

We will reflect on some key lessons that we learnt that will help us to rethink, reimagine and reinvent our future. We will forecast the post-pandemic Next Normal in terms of three Ds that will shape humanity's future, namely digitalisation, decarbonisation and democratisation.

Lecture-2: Futureproofing in the VUCA World: Ten Tenets of Resilience
Date: 19th May, 2022 – Time 11.00 am – 1.00 pm
(Venue: Room G29-G30, Ground Floor, New Horizons).

The world has recently witnessed VUCA (volatility, uncertainty, complexity and ambiguity) like rarely before, be it due to the pandemic, the war and so on. This has had major geopolitical and socioeconomic consequences.

Resilience is the key to not just survive but also succeed in this VUCA world. We discuss in depth our proposal for building ten tenets of strong Resilience, which include adaptability, agility, resilient thinking, digitalisation, platformisation, scenario planning, climate action, autonomous innovation, etc.

We also draw lessons from the Resilience from biological systems in terms of redundancy, modularity, adaptation, heterogeneity, embeddedness etc. We argue that Resilience must become an essential part, from curricula in the academic world to agenda in the corporate boardrooms.

Lecture-3: NextGen Engineers: The Challenge and Opportunity
Date: 25th May, 2022 – Time 2.30 pm – 4.30 pm
(Venue: Room G29-G30, Ground Floor New Horizons).

The inspiring inscription on the Lamme Medal of IEEE says 'The engineer views hopefully the hitherto unattainable'.

A 21st century NextGen engineer will have to become a 'solution engineer' to provide pathbreaking solutions with speed, scale and sustainability in a dynamically changing world. We show as to how the NextGen engineer can develop the ability to continually reinvent oneself by leveraging explosive advances in adjacent sciences and in rapidly evolving disruptive exponential technologies and become truly innovative, integrative, inclusive, borderless, disruptive, responsive. The NextGen engineer should have the aspiration to assume leadership in achieving humanity's collective goal of balancing people, planet and prosperity.