

UNLEASHING INDIA'S SCIENTIFIC POTENTIAL: BREAKING BARRIERS AND IGNITING INNOVATION



Prof. V. RAMGOPAL RAO (Group Vice-Chancellor, BITS Pilani)

ABSTRACT : India possesses immense latent scientific talent that remains largely untapped due to systemic challenges such as suboptimal budget allocations, S&T policies, excessive bureaucratic oversight, and a lack of academia-industry connect. This talk explores how these barriers stifle innovation and limit the country's global competitiveness in science and technology. Although recent measures by the Government of India aim to address these challenges, there is still substantial ground to cover. By rethinking policy frameworks, increasing investment in research and development, and fostering a culture of collaboration and experimentation, India can unlock its true potential. The focus will be on actionable strategies to break these barriers and build robust pathways that empower scientists, researchers, and innovators, ensuring that India transitions from being a knowledge consumer to a knowledge creator on the global stage.

INTRODUCTION : Prof. V. Ramgopal Rao is the Group Vice-Chancellor of the Birla Institute of Technology & Science (BITS) Pilani group of institutions. Before joining BITS in 2023, he served as the Director of IIT Delhi (2016–2021) and was a Chair Professor of Nanoelectronics at both IIT Bombay and IIT Delhi.

An internationally renowned researcher in nanoelectronics, Prof. Rao has authored over 500 research publications and holds 50 patents, including 20 granted US patents, with 15 licensed for commercial use. His group's CMOS-SoC intellectual property is used in hundreds of millions of integrated circuits worldwide. He is also the co-founder of two deep-tech startups, Nanosniff and Soilsens, both of which have successfully commercialized their technologies.

Prof. Rao is a Fellow of IEEE, TWAS, INAE, and all three Indian science academies—IASc, INSA, and NASI. He has supervised 53 Ph.D. scholars, many of whom now hold positions in leading academic institutions and semiconductor industries worldwide.

His outstanding contributions to research and academic leadership have earned him over 40 national and international awards, including the Shanti Swarup Bhatnagar Prize, the Infosys Prize, and the IEEE EDS Education Award, along with three honorary doctorates. He serves on the Editorial Advisory Boards of several leading international journals and has delivered over 200 plenary, keynote, and invited lectures across the globe.

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