



DR G. SATHEESH REDDY
Secretary, Department of Defence R&D and Chairman, DRDO

Dr G. Satheesh Reddy, presently **Secretary, Department of Defence R&D, Chairman DRDO and Director General, Aeronautical Development Agency (ADA)** is well known for his decades of significant contributions towards indigenous design, development, deployment of diversified **Missiles & Strategic Systems, Guided Weapons, Avionics technologies** and for sustained efforts in advancement of Aerospace technologies & Industries in India.

Dr Satheesh significantly contributed in **formulation of many R&D policies** related to Missile Systems, Aerospace technologies and conceptualized modalities for promoting innovative manufacturing in India. As Director General, Missiles and Strategic Systems, he **spearheaded Dr APJ Abdul Kalam Missile Complex**, a national R&D facility and technology centre of Missiles in India **steering the design and development** of wide variety of tactical and strategic missile & guided weapon systems. As Distinguished Scientist and Director, Research Centre Imarat (RCI), he **led the design and development of mission critical advanced Avionics Systems**.

Dr Satheesh **bolstered self-reliance in critical technologies**, promoted Indian industries, strengthened Academia collaborations for indigenous development of wide range of Avionics systems and sub-systems, which would have costed several thousands of Crores in imports. He **has engendered a conducive ecosystem to strengthen manufacturing and research base** in the country so that the **industries become an integral part of the national defence programs** and strengthened more than 300 industries with Aerospace standard production capabilities.

He **holds the distinction** of being elected as Fellow of Royal Institute of Navigation (FRIN), London, **Royal Aeronautical Society**, UK (FRAeS) and **Foreign Member** of the Academy of Navigation & Motion Control, Russia. He is an **Honorary Fellow** of Computer Society of India & Project Management Association of India, Fellow of Indian National Academy of Engineering, IET (UK), Associate Fellow of American Institute of Aeronautics & Astronautics, USA and many other Academies/scientific bodies in the country and abroad.

For his distinguished contributions, Dr Satheesh received several prestigious international and national awards which includes the **Silver Medal** of Royal Aeronautical Society, London, **Homi J. Bhabha Memorial Gold Medal, National Aeronautical Prize**, National Design Award, National Systems Gold Medal, the first IEI-IEEE (USA) joint award for Engineering Excellence and was conferred with the . He is also a recipient of **Dr Biren Roy Space Science Design Award**, Astronautical Society of India Rocketry & Related technologies Award and has been conferred with **Honorary Degrees of Doctor of Science** by many leading Universities in the country.

“Future Battlefield Technologies”

All kinds of autonomous systems shown in movie Terminator ie robotic soldier, self-thinking & self-learning machines, adoptive materials, smart fire power and intelligent platforms were not the certainties to be realized soon in my younger days. Over four decades of journey of DRDO, I have seen the evolution of battle field, technologies used in that and its impact on the warfare. Now at present, the battle is everywhere, at vicinity of your work place to distant border area.

There is a constant need of updating and upgrading of technology to make the peace loving people safe from destructive ideologies making battlefield asymmetrical. The world now needs continuous upgradation of technologies to safeguard the earth as transformation in battle field is too rapid.

Emergence of Information and disruptive technologies is a new phenomenon on generational timelines. In last three decades, after the introduction of IT and disruptive technologies, the combat systems and combat processes are becoming more intelligent, precise, accurate and autonomous along with miniaturization.

Future battle fields and warfare would be shaped by emerging technologies like:-

- Artificial Intelligence & Deep Learning.
- Quantum Technologies.
- Advanced, Smart Materials & 3D printing.
- Cyber Warfare Technologies.
- Asymmetric Warfare Technologies & Human Augmentation System

DRDO is trying to bridge the technological gaps for our armed forces in this whole paradigm of warfare. To convert an ‘Idea’ into an ‘useful combat technology’ on industrial scale, DRDO collaborates with various types of agencies. The government is taking a lot of steps including Atal Innovation Missions, Atal Tinkering Labs, etc to create an eco-system for future Start-ups. The schemes like DIRI, TDF, MGS, EDP, M-SIPS, SPRS, etc also exist for supporting Startups. At present only few Start-ups in India are having some contribution in defence sector wherein in Israel defence sector, there is huge contributions from Start-ups who are coming out with new solutions to meet modern warfare needs. I would like to see more and more start-ups blooming in defence sector in India. We at DRDO would provide all the support necessary for them to flourish and contribute towards strengthening the national security for New India. More and more young brains should ‘Innovate in India and for India’.