Sitting down with The Scientific Advisor to Raksha Mantri

Dr G. Satheesh Reddy is the Scientific Advisor to Raksha Mantri. A proponent of indigenization, he guides the development of significant programmes on missiles and strategic systems, fighter aircraft and unmanned aerial defence systems, underwater systems, radar systems, strategic materials, and armaments among other futuristic technologies. The MIT Post had the fortune to interact with and interview Satheesh Sir about his expert experience and in-exhaustive knowledge in the scientific domain.

Under your tenure as the Chairman of the Aeronautical Development Agency (ADA), various indigenous projects like the fourth-generation TEJAS and DRDO-Ghatak were integrated.
In comparison with our imports, where do these indigenous projects stand, sir?

Most of the latest technologies in the aeronautical sector have come a long way. A lot of things have been developed in the country. Academia and accreditations have come up with many innovative solutions and systems. Lots of infrastructure has come into the country like wind tunnel testing, and so on. The government has planned an order for 83 TEJAS jets which has given a major boost to the indigenous aeronautics industry today. The industry plays a major role in the supply chain of the various parts and subsystems. In the coming aircrafts, the indigenous content will be very high and now, the country is poised to make state-of-the-art five-plus generation aircrafts. The country is already working on the design and is in the R&D phase of the design.

Project Shakti 2019 or the Anti-SAT programme was also

undertaken with your wise guidance. While planning for the entire project, how did you monitor the entire programme so that the debris would not fall on the Earth or not collide with the satellites orbiting around the lower orbit?

Lots of studies, simulations, and analyses have gone into the study. The site chosen was the lower side of the lower orbit. We have also seen the impact angle at which the impact of the physical collision occurs. We have seen the angles at which the distortion improves and doesn't go higher in altitude. Whatever debris is generated dies down quickly. There is barely any debris in space this way. Many countries have done this safely and so have we.

The Russia-Ukrainian war is a significant stressor for the Government since our nation's Defence sector was virtually on tip-toes and both of our partners, that is, the Western Front and the Russian Front are at war with each other. During such times, does it seem like a stressor for you as a strategic advisor?

I'm a scientific adviser, with more emphasis on technology and this is more inclined towards international affairs and related parameters.

As a scientific advisor, does your expertise extend to the definition of the Defence Budget appointed to the Defence sector in a fiscal year?

As a scientific adviser, you are finalizing the technology, the research, and the designs that have to be completed, the weapons, the systems, and the tools being developed also come under your purview. So you also make a road map on that on the technologies and the areas in which the systems will be set. Naturally, inter-institutional departments work very well to take care of the allocation work that needs to happen.

There are brilliant establishments like iDEX that empower the youth to invest and come up with projects in the Defence

sector. However, post inception, we have heard that it takes nearly thirty years, on average, to implement the idea as in the case of Tejas. Is there a system that helps in cutting off the thirty-year phase that goes into finalising and applying it?

It does not take thirty years to finalise an idea. In thirty years, the idea does not remain valid at all. It takes a maximum of one to two years to finalise an idea, depending on the complexity of the system. If the armed forces need it urgently, the delay is even lesser. Once the prototype is seen by the Department of Production, the Department of Science and Technology, and the Armed Forces, it is taken to the next level. From there, the product is brought to life and thereupon only minor arrangements are necessary.

You are one of the only people in the last hundred years to be nominated as a fellow of the Royal Aeronautical Society of London and its American equivalent. How does that make you feel about the entire aeronautical domain and how can it be expanded further in India?

This shows that the ecosystem method in the aerospace department of the country is defined by what is required by the public in the country. If a country is coming up with a lot of technologies, systems, and research and is recognized in the name of a person, we need to note that the achievements are not in the name of a person but for the whole country. So, India has been taking the leading role in the aeronautics sector.