



Centre for Air Power Studies (CAPS)

Forum for National Security Studies (FNSS)

Title: INDIAN AIRCRAFT INDUSTRY-POSSIBLE INNOVATIONS
FOR SUCCESS IN THE 21st CENTURY

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The presentation focused on finding the best possible models to energise Indian Aircraft Industry. Apart from models, the basic essentials for a robust Aircraft Industry are on the Human resources front. The necessary quality technical education and appropriate training are essential factors. More courses on aerospace engineering ought to be offered in leading Indian technical institutions along with sufficient sponsorship. To speed up the growth of education in this sector, tie ups and exchange programmes with renowned foreign universities need to be made. To expose students to industry practice and real time research, industries have to set up their own captive educational institutions modelled on ISRO's Indian Institute of Space Science and Technology (IIST). One of the more important enabler that the government needs to look at is the brain drain problem the country has been facing in this sector. Proper employment opportunities along with proper environment ought to be provided for aerospace engineers to explore their passion in the country.

Considerable amount needs to be spent for Research and Development (R&D). R&D expenditure is costly, takes a long time for it to generate profit and also risky, hence, private players spend very less in R&D. Even government spends less than 2% in R&D. Moreover, it takes a lot of capital to set up R&D infrastructure. So the solution is for the government to share the existing R&D facilities in control of PSUs with private industries. Government should also spend money for setting up R&D infrastructure in educational institutions to promote research culture. Further, government should provide very good incentives for private companies for setting up their own R&D centres.

The larger essential factor is market expansion in the aerospace sector which can be done by opening up for exports in this sector. The present trend is high cost products and low volumes of orders. Profit driven private sectors are looking for confirmed orders for products before they could invest in R&D. Hence, the market needs to expand for more volumes of orders.

Four models for developing Indian aircraft industries were suggested.

Model A: Since independence defence design, manufacture and production is monopolised by public sector industries and has largely been inefficient. Hence, these inefficient units must be placed under military leadership which is anyway not new. The leadership could consist of a mix of corporate managers and ex-IAF personnel.

Model B: The public sector units are huge in terms of responsibilities with several units. These excess non-performing divisions could be sold to private players and then both private and public sector could work together for better result. Research and Development in fundamental and some applied research could be under a central organisation where the results of R&D could be shared with the production units for product development. Further, other R&D work can be shared between public and private sector depending on expertise.

Model C: In 'Make in India' scheme, one particular private company can be selected based on existing expertise and make them build the product. This will infuse technology and expertise over a period of time. Involvement of private players in government projects

in collaboration with foreign companies would help in the development of green field enterprises in the future. As in the previous model R&D must be shared between public and private players and government should heavily incentivise R&D. To avoid monopoly, the production of a platform or a system could be shared between two companies so as to distribute profit as well as to have a backup. This would enable a healthy competition in the future leading to the strengthening of the aerospace infrastructure in the country. IAF BRD units could also be involved in this scheme.

Model D: Government should allow unrestricted market access for private companies so they could enter any field. However, along with private organisations the DPSUs may function alongside with part divestment. Strong competition may emerge and there is also a possibility of emergence of monopoly. Mutual backup might also emerge due to financial reasons. Government should lead R&D as it is done in U.S and Russia.

Mix of model C&B which will slowly build the private Sector and may result in large green field private defence companies over a period of time. A model for own utilisation as well as export of weapon system could be discussed which is crucial for revenue generation for sustaining the defence industries. Moreover, role of MSMEs are crucial for a strong aerospace sector in the country. Hence, adequate attention ought to be given for MSMEs. On the resources front, rare earth materials are in sufficient quantities within the country which needs to be explored. Self-sufficiency in rare materials will enable development of advanced materials like sensors which is crucial for aircraft components.
