1. The 12th international conference on "Energising Indian Aerospace Industry: Gathering Momentum?" was conducted by the Centre for Air Power Studies (CAPS) and Confederation of Indian Industry (CII) in association with Indian Air Force, on 07 and 08 September 2017 at New Delhi. The broad objectives of the conference were to assess the status of Indian Aerospace Industry with changes in policy and plans post-DPP 2016 and the 'Make in India' drive of the Government of India, and identify the bottlenecks being faced by the IAF and Indian Aerospace Industry in leveraging the new avenues generated. The Conference saw an impressive attendance from the Services, members from the strategic community, think tanks and Indian and foreign industry; a copy of the programme is attached. Representatives of four State governments participated in the conference for the first time highlighting their policy initiatives on investment in aerospace industry.

2. The discussions were free and frank and there was a general consensus that the aim of setting up an indigenous defence industry has gathered momentum due to the Government's 'Make in India' drive and other initiatives and incentives by the central and state governments. Participants were unanimous in their view that MSMEs are the backbone of indigenisation and their potential needs exploitation. The need was also felt for out of the box thinking for change of business models to tap the market for Maintenance Repair and Overhaul (MRO) and engineering support, to increase the FDI limits and to modify tax regimes. There was overwhelming agreement that the industry and users need to view each other as partners in the indigenisation drive.
3. There still remain areas which need the Government's focused attention to make the Indian private industry major partners in setting up a defence manufacturing base. The two-day deliberations generated a host of ideas and suggestions which are summarized hereafter.

4. **Recommendations:-**

   (a) There is a need to develop the Indian private sector as a provider of exclusive technologies. To achieve this, enabling policies and visibility in long term orders should be provided by the government and the defence services as the private industry is well positioned now to absorb major projects. It was suggested that under the Strategic Partnership (SP) model, major Indian players need to pursue a twin agenda of job creation as well as local production of goods as a part of Make-In-India. The focus of joint projects needs to move from Build-to-Print projects to Build-to-Specs in India; while private companies can partner in design, the government must act as a 'facilitator of development'. To achieve these goals, individuals, un-connected with PSUs, must be included in policy and decision making bodies. There should be a target based time table and the prevalent risk-aversion environment done away with; technological R&D comes with several uncertainties the world over - a reality that must be accepted.

   (b) The Deputy Chief of Air Staff offered the opportunity for Indian private manufacturers and Micro Small and Medium Enterprises (MSME) to use existing IAF infrastructure and testing facilities for flight and equipment testing.

   (c) The strategic partnership model has some pressing concerns:-

      (i) Protection of Original Equipment Manufacturer’s (OEM) Intellectual Property Rights (IPR).
(ii) Joint responsibility for quality and licensing – foreign OEMs expressed their apprehensions on this since, as per them, this was not possible if they had only a 49% stake in the project. They feel that they cannot be penalised for defects outside their control.

(iii) Final selection of product/vendor should be based on best overall value rather than the L1 concept. 'This was the unanimous opinion of all participants.'

(iv) Long term orders, including follow on orders, are vital to ensure success of the SP model.

(v) The investments made in public enterprises over the last 5-6 decades ought to be also leveraged, by co-opting them in the SP Model. Experience of global OEMs in various countries such as Turkey, Japan, and Brazil, does suggest this.

(d) ‘Transfer of capabilities’ as a model would be better than ‘transfer of technology’ (ToT) for collaboration with local partners. Local partners must become recipients of abilities while collaborating with foreign OEMs.

(e) Maintenance Repair and Overhaul (MRO) and Unmanned Aerial Vehicles (UAV) sectors are largely untapped in the indigenous aerospace sector and are an opportunity for the private players. The government needs to facilitate this segment through incentivising such initiatives. An enabling regulatory mechanism for allowing use of UAVs for civil applications is needed to support the nascent unmanned aerial vehicle industry.

(f) Many states have an existing aerospace ecosystem and rank high in ‘Ease of Doing Business’ parameters. As they are major stakeholders in the drive to make India into an aerospace hub, and are inviting companies individually, a central body needs to coordinate in allocating the multifarious facets involved in each business proposal; this is to avoid frittering away the advantages of consolidation of capabilities and numbers.
(g) Since private players are major cogs in the government’s Make in India drive they should be seen as partners and not simply as vendors; there is a need to facilitate this. ‘Co-creation’ of capabilities as a concept could be introduced.

(h) Demand aggregation is crucial to create a financially viable ecosystem for manufacturers. There should be even greater interaction between aerospace manufacturers and armed forces to further understand the requirements and specification of products. Specifications, if rationalised for interoperability between the three Services, would create more competitiveness and ensure quality assurance as well as being financially viable.

(i) While specifications need be drafted within the realm of practicality and rationality, there needs to be a certain degree of reasonability in timelines and costs. Every RFP needs to have a validity timeframe, especially for intellectual fields like software, in which advancements change rapidly.

(j) Payment timelines are not automated against delivery benchmarks and the small scale sector is adversely affected by this financially crippling ground reality. Time and delivery based automated release of funds would help the MSMEs greatly in their financial stability. This was a unanimous view.

(k) DGQA / CEMILAC (which are under MoD) need to function as independent entities for giving the private industry a level playing field in competition with DPSUs.

(l) A national civil aviation (manned and unmanned systems) innovation, design assessment and certification agency is needed to lay down standards and evaluate designs and products.
(m) The Government needs to significantly relax the financial eligibility criteria of acquisition programmes to encourage participation of MSMEs.

(n) The allocation to the Technology Development Fund (TDF) should be significantly increased. The government must ensure that DPSUs and strategic partners procure 40% of their input from the MSME sector.

(o) It needs to be ensured that QA agencies, or users, do not add any additionalities post contract formulation stage. Any such additions or any new third party testing recommended by them, beyond the RFP, should be mutually costed so as to avoid any financial burden on the vendor who would have already submitted his financial quotes as per the RFP.

(p) Sample/model QA documents should be posted online as there is concern amongst MSMEs over QA documents and their format desired by QA agencies. This will enable start-ups to apply for defence projects with more accuracy and confidence.

(q) Development of full spectrum of skills for aerospace sector needs to be accorded high priority. Apart from skills for manufacturing, there is a need to invest in developing human resource for higher level of roles - project managers, developers, designers, engineers etc. The number of seats for graduate, post-graduate and doctorate level degree courses in the country needs to be increased substantially to meet the near term and future needs of the sector. Hence, creation of "full spectrum of skills", relevant for the aerospace sector is an imperative to sustain R&D and manufacturing for the long term; the SP model could assist in this endeavour.
5. **Conclusion.** The conference proved to be an effective platform for understanding the bottlenecks in energising the aerospace industry for meeting the requirements of the armed forces. The participants of the conference were keen for continuation of this annual event, as under one roof it brings together users, industry, OEMs and the government. While it was heartening to have a Joint Secretary from the Dept Of MSME speak to the gathering, greater participation of Government officials in the audience and/or as speakers would enhance ground level feedback and new ideas directly to policy formulators. As the indigenisation drive gathers momentum it would be apt to transit to a 'Think Global, Act Global' mantra, *at an appropriate stage*, to keep the bigger picture of becoming a player in the international defence products arena.