AERO INDIA 2017
INTERNATIONAL SEMINAR
12 – 14 February 2017

SUB THEMES FOR AERO INDIA SEMINAR 2017: TECHNOLOGY COLLABORATION &SELF-RELIANCE

Technology Collaboration Aspects

Make in India; self-reliance in critical technologies; mode of acquisition; indigenous product development; Transfer of Technology; Offset obligations; International Collaborations; International Joint Venture models – Aircrafts, engines, AEWS, Missiles and space; Academic interaction – Centres of Excellence, advanced research facilities; Blue sky research approaches ; Start-up incubation; Industry Interaction mechanisms; IPR & Patents

Aircraft Systems (Civil and Military)

Indigenously manufactured systems; 5th generation and beyond; morphing aircraft technologies; V/STOL capabilities; super manoeuvrability; operational capability enhancement; integrated flight and propulsion control ;fault tolerant & intelligent controls; fluidic control for high lift and thrust vectoring; stealth technologies; microlights and gliders; Integrated Vehicle Health Monitoring (IVHM), model based prognostics, health & life monitoring metrics; MRO strategies and trends; certification – conventional & model based; safety, failure diagnosis, airworthiness and regulatory aspects; rotorcrafts; carrier based aircraft and related technologies (STOBAR & CATOBAR); CLAW for launch and recovery; Direct lift and auto throttle technologies; EMI / EMC aspects; life support systems, Technologies for lighter than air vehicles, Aerospace power supplies, Microwave tubes & power modules

Unmanned Platforms and Strategic Systems

Indian UAVs; Design approach for UCAVs; Drones and swarms; autonomous navigation and control; stealth requirements (Intakes & IR Signature); bio-inspired UAVs; unmanned air traffic management; safety, reliability and regulations for unmanned systems; Simulation technologies for unmanned systems.

C^4ISR & Avionics

C^4ISR; architecture framework; sensors & communication; Multi-sensor data fusion; Radars; Electronic warfare; ECM & ECCM; quantum cryptography; Low-Intensity warfare technologies; dependability and mission assurance; technology perspective on real-time systems; weapon – sensor integration; Software certification and security, IV & V; tactical missions; fibre optics & photonics; reliable touch & voice control technology

Propulsion Systems

Next generation military aircraft engines and subsystems; all-electric quiet and green engines; advanced thermal protection systems for stealth; pulse detonation engines; expendable small gas turbines; rotary engines; turbochargers; JFS & APUs; hybrid propulsion system; hypersonic propulsion and scramjets; advances in ramjets; nano-gelled propellants; geared turbofans; low carbon propulsion; sustainable jet fuels; gas path debris sensing; non-intrusive measurement techniques; propulsion system evaluation, qualification, airworthiness, certification (conventional & model based) and environmental testing of propulsion systems; international collaborations.

Space and Missiles Systems

Re-usable launch vehicles; deep space exploration system design challenges; human mission requirements; evaluation techniques for space systems and debris; space based weapon systems; combined cycle engines; LEO satellites; cryogenic engine technologies; ballistic and cruise missile defence systems; instabilities in missile propulsion; micro, nano and pico satellites; guidance navigation and control.

Materials and Manufacturing

Near net shape manufacturing; Additive manufacturing – Qualification & Certification; Design for Manufacturing; Advances in metal forming, joining and casting technologies; Robotics in Manufacturing; Multi axis machining; Application of nano & micro machining; Advances in Surface treatment, coatings & un-conventional machining technologies; Process measures and controls in Aerospace manufacturing; Ceramic, Polymer and Metal Matrix composites; Piezo electric panels; Nano-enhanced composites; smart materials; trends in materials for aircraft engines; lightening tolerant composites; high temperature electrical insulation & super electrical conductors

Evolving Scenario in Aerospace Industry

Future battlefields; system engineering methods; adaptive modelling techniques; big data analytics; nano-technologies; micro air vehicles; hypersonic propulsion; trends in maintenance, reliability, life-cycle management and certification; combat mission effectiveness simulation; MEMS, smart, low observable & high temperature sensors; Directed Energy weapon systems; bio-inspired structures; inventory management based on prognostics; Advanced air intake systems