

CSIR-National Aerospace Laboratories Unveils Indigenous Micro and Small Gas Turbine Engines, Boosting India's Unmanned Defence Capabilities

Posted On: 25 AUG 2026 2:51PM by PIB Delhi

In a significant step towards self-reliance in advanced aerospace propulsion, CSIR-National Aerospace Laboratories (CSIR-NAL) today unveiled three indigenous Micro and Small Gas Turbine Engines — NJ-05 with 5 kg thrust, NJ-50 with 50 kg thrust and NJ-100 with 100 kg thrust — at the SSB Auditorium, CSIR Headquarters, New Delhi. Developed to address critical requirements in indigenous defence technologies, these compact propulsion systems are envisaged for applications including tactical unmanned aerial vehicles (UAVs), drone interceptors and compact missile systems.

The event brought together senior leadership from India's defence and scientific communities. Air Marshal Tejinder Singh, PVSM, AVSM, VM, Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee (CISC), graced the occasion as the Chief Guest.



From Left to Right: Dr (Smt) N Kalaiselvi, Director General (CSIR) & Secretary (DSIR), Air Marshal Tejinder Singh PVSM, VSM, VM (Chief Guest & CISC) and Dr Abhay A Pashilkar, Director (CSIR-NAL) at the unveiling of the indigenous Micro and Small Gas Turbine Engines at the SSB Auditorium, New Delhi

Welcoming the gathering, Dr Abhay A. Pashilkar, Director, CSIR-NAL, highlighted the laboratory's evolving role as a multi-stage integrator for the country's growing drone ecosystem. He emphasised that Indian industry, including the rapidly expanding aerospace start-up ecosystem, has the potential to manufacture these advanced engines at scale to meet the requirements of the Indian defence sector.

The CSIR-NAL scientific team, led by Shri R. Prathapanayaka, made a detailed technical presentation on the development of the gas turbine engines. The presentation highlighted the advances in high-RPM turbomachinery and high-temperature combustion technologies that have enabled the development of these indigenous propulsion systems.

Addressing the gathering, Dr N. Kalaiselvi, Director General, CSIR and Secretary, DSIR, commended the collaborative efforts of the project team. She underscored that indigenous development of such highly specialised and critical subsystems marks an important milestone in advancing Atmanirbhar Bharat in aerospace engineering.



Unveiling the propulsion systems, Air Marshal Tejinder Singh emphasised the strategic importance of developing advanced gas turbine engine technologies within the country. He observed that indigenous capabilities in such critical technologies would strengthen national security and enhance the technological self-reliance of the Armed Forces.

The successful development of the NJ-05, NJ-50 and NJ-100 represents an important step towards building an indigenous ecosystem for the design, development and manufacture of miniaturised gas turbine propulsion systems. Together with emerging domestic manufacturing capabilities, these technologies are expected to contribute significantly to India's growing UAV, drone and defence aerospace ecosystem.

NKR/AK

(Release ID: 2303065) Visitor Counter : 757

Read this release in: Urdu , हिन्दी , Marathi , Tamil , Kannada