GE Aerospace and HAL celebrate 40 years of partnership

With a defence budget of more than $78 billion, India is modernising and expanding its military capabilities, and the potential for business investment is immense. The country is seeking trusted, highly capable companies willing to support its defence ecosystem in ways that align with the Indian government's "Make in India" initiatives.

GE Aerospace has played a significant role in building India's defence sector over the past 40 years. Since 1985, when the company first began discussing opportunities with Hindustan Aeronautics Limited (HAL), India's government owned aerospace company, the partners have nurtured an enduring alliance that continues to grow. GE Aerospace now provides the Indian military with globally proven aircraft and marine engines, avionics, and maintenance, repair, and overhaul (MRO) services. Meanwhile, an increasing amount of engineering, manufacturing and material sourcing for this work is taking place in India. It's a highly valued relationship that benefits both countries, economically and beyond.

"It's not just a business thing – there is a higher purpose and mission to the work we do with HAL," stated Shawn Warren, vice president and general manager of combat and trainer engines at GE Aerospace. "India is a strategic partner to the US in the Pacific region, and our relationship with HAL supports that broader global relationship."

The American and Indian companies have worked collaboratively from the very beginning. "We've never had a customer–supplier relationship," stated Rahul Gadre, the Bengaluru based sales director for military engines and systems at GE Aerospace. "It's more of a partnership – a joining of hands."

Although GE Aerospace is also working with private–sector partners in India, Gadre explains, the relationship with HAL is foundational. "HAL is the backbone for defence in India," he says. "They have experience and expertise from the past 85 years. They literally started from scratch to develop an in–country aerospace industry."

The partners' first official contract, a licensing agreement signed in 1986, saw HAL begin assembling, inspecting, and testing GE's LM2500 marine gas turbines in India. The LM2500, an aero–derivative marine engine prized around the world for its performance and reliability, has since become a cornerstone for the Indian Navy, powering its stealth P17 frigates, advanced P17A frigates (the first of which was commissioned this January 2025), and India's first domestically built aircraft carrier, the INS Vikrant, commissioned in 2022.

The companies launched their aero partnership in 1986 as well, when HAL, working with India's Aeronautical Development Agency, integrated GE Aerospace's F404 engines into the country's landmark Light Combat Aircraft (LCA) programme. India's ambitious effort to develop and build its own world class fighter jet reached a milestone in 2016 when the first Tejas – Sanskrit for "Radiance" – LCA Mk.1 single–engine multirole combat aircraft roared into service with the 45th "Flying Daggers" squadron of the Indian Air Force.

GE Aerospace has so far delivered 65+ F404 engines for the LCA Mk1 programme, and another 99 are on order for the LCA Mk.1A variation. Meanwhile, the company's higher–thrust F414–GE–INS6 afterburning turbofan has been selected to power the next–gen LCA Mk.2, which has increased range, and for the prototype development, testing, and certification of fifth–generation fighter jets — the most advanced class of military jets flying to date — for India's Advanced Medium Combat Aircraft (AMCA) programme. The first AMCA jets will be twin engine aircraft, and initially each will be powered by two F414s.

In a groundbreaking agreement announced during Prime Minister Narendra Modi's official state visit to the United States in June 2023, GE Aerospace and HAL are now working towards joint production of GE Aerospace's F414 engines in India.

While GE Aerospace has the US government's approval to share engine technology with other allied countries, such as South Korea, the new agreement with India is notable for its scope. "We were asked to push the limit in terms of technology transfer," said Warren, who sees the move as an exciting next step for both companies and both countries.

According to Dr. D K Sunil, Chairman and Managing Director of HAL, "Our collaboration with GE Aerospace integrates cutting edge technologies, such as additive manufacturing, advanced materials, and digital design techniques, into India's aerospace sector. These advancements enable HAL to manufacture state–of–the–art defence products, further boosting the operational readiness of the Indian Armed Forces."

"We've been working with HAL for 40 years, and we're set up for another 40 year run," Warren said. "India is a huge market and a huge opportunity. We're building on a legacy."

By Dianna Delling

Photos: Vayu Aerospace Review