SHOW DAILY
www.showdailys.com

2021 AERO INDIA
The Runway to a Billion Opportunities

3 to 7 February 2021

From the publishers of
International Aerospace

DAY-2

Scan to View Day 2 E-version

# Pandemic or no pandemic, Show goes on


Defence Minister Rajnath Singh, Karnataka Chief Minister, B.S.Yediyurappa and CDS General Bipin Rawat witnessing the handover of order for 83 LCA at the 13th edition of Aero India 2021

The first ever mega airshow being held in the world during the pandemic – Aero India 2021 at Yelahanka Air Force Station, got underway as if the pandemic did not exist and there wasn't any global economic crisis. It exuded positivity. Importantly, it showed the way that India may take latching on to the clarion call of the Prime Minister, Narendra Modi – 'Atmanirbhar Bharat', a self-reliant India.

Inaugurating the 13th edition of the premier airshow in Asia, the Minister of Defence, Mr. Rajnath Singh said the State of Karnataka with a 'mature eco-system' of aerospace and defence and the hosting of Aero India were perfect platforms for India's domestic manufacturing to achieve greater heights.

**130 billion dollars of military modernisation**

In the next 7 to 8 years, the military modernisation programme would entail opportunities worth 130 billion dollars. The domestic industry, both public and private, had to forge partnership with participating nations here to achieve those levels. We are now marching towards 'Make for the World' from 'Make in India'. As such several countries have already expressed interest in what India is going to be exporting in aerospace and defence sectors.

There were unique challenges, he said and added that 'no journey can be passed through testing times'. The government since 2014 has been continuously working on reforms to propel economic growth and mentioned how it was trying to attract investments from overseas – 74% through automatic route and 100% through government route. The reforms and Aero India would act as catalysts for foreign players.

Continued on page 2

## INSIDE




**"India offers unlimited potential in defence and aerospace. Aero India is a wonderful platform for collaborations in these areas. The Government of India has brought futuristic reforms in these sectors, which will add impetus to our quest to become Aatmanirbhar."**

# Crown Group Handheld Anti-Drone Systems

The Crown Group showcased India's first-ever indigenously developed Handheld Anti-Drone System, besides artificial intelligence (AI) and Big Data Analytics-driven innovative technologies and solutions for Data Management and Predictive Intelligence.

The Crown Group's anti-drone system is built to mitigate burgeoning threats posed by drones and UAVs to infrastructures and people owing to their malicious or errant use cases, espionage and intelligence transport of explosive & biological payloads and air traffic interruptions - impacting civil and defence aviation.

India has over 15,106 kms of land borders with extremely harsh terrains. Despite intense tactical and counter infiltration grid deployment of the troops, there are gaps which are prone to isolated airspace violations and intrusions by adversaries asymmetric tactics. Troops in the Border Out Posts do not have any equipment to intercept and neutralise such threats posed by drones. Many a time's commercial drones are used by terrorist organisations and other intruders to carry out trans-border illegal activities. Given their small sizes, it goes unnoticed on radars and surveillance systems. Majority of the Counter Drones Systems currently available are costly and of intricate technology. Also, the present technology is limited to close in protection of Point Targets like venues, critical infrastructure or a complex. They are not designed for long extended borders.

Counter Drones is a nascent technology and companies are trying to build the best systems involving multiple technologies to deal with all possible contingencies. Various market research groups pegged the growth rate in this industry from 25-35% CAGR till 2025. This shows that the threat is real and rapid.

Elaborating on this, Brigadier Ram Chhillar, of Crown Group, commented, "While the use of drones or Unmanned Aerial Vehicles (UAVs), both for military and civilian purposes have increased in India over the years; considering the rising incidences of threats, sophisticated security systems must be adapted in accordance with the threat evolution. Given the affordability of drones, thanks to unprecedented technological advancements, the incidences of misuse are anticipated to grow manifold in the coming times, threatening our national defence. Today, we are proud to share with you all, that it is a proud moment for India - Crown Group is the first company from the Industry to have developed an indigenous Tactical Counter Drone System. Crown Group's C-UAS ARMS Anti-Drone System is based on Three key features: Simple, Adaptable and Cost Effective – ready to face present and future threats."

"The solution is flexible, scalable, interoperable, tailored-to application integration into customisable deployment platforms," he added.

The features of the systems are - Ease of use with minimum deployment time; Uses proprietary jamming profiles; Effective up to a range of 1.5 kms; Delivers 2 hours of continuous operation; Provides fast charging with rechargeable batteries; Weighs only 3 Kg including the battery pack; Low cost & has upgradable firmware to adapt to technology improvements; and Adaptive power output.

Given the aforementioned features, the C-UAS ARMS Anti-Drone System will act as an invisible yet formidable wall for drones at the country's borders. As soon as any drone comes near the Indian airspace, their RF channels are jammed by the anti-drone devices, forcing them into failsafe mode.

Therefore, the hand-held anti-drone system will perfectly address some of the existing challenges faced by the Indian Defence Forces at the tactical level along the Line of Control as well as at the international borders. In the hinterland, this will be value addition to the existing Security Apparatus engaged in protecting our Critical Infrastructure & Vital Installations like the Ammunition Depots, Airports & Airfields, Shipyards, Nuclear Sites etc, managed by the CISF & DSC.

Crown Group's technology innovations establish their superlative Make in India industrial development aptitudes in engineering high-tech products that aim to solve globally relevant problems. Their commitment towards driving indigenous opportunities in the defence sector is aligned with the Government of India's vision of "Atmanirbhar Bharat" for defence. The Group has defence equipment manufacturing plants, servicing and defence tie-ups and is also actively operational in domains such as Infrastructure Development and providing customised AI & IT Solutions. ■

# PBS INDIA offers solutions for the Aerospace Industry

PBS INDIA is a designer and manufacturer of aircraft engines, auxiliary power units (APU), environmental control systems (ECS), specific custom-made aircraft solutions, cryogenics and investment casting products. It is part of the PBS GROUP, a Czech engineering manufacturer that operates globally in aerospace, precision casting, precision engineering, cryogenics and energy.

It has more than 200 years of history behind it with the ability to design, construct, manufacture and test the entire product. This is a significant competitive advantage, as is the ability to adapt products to specific customer requirements.

PBS has been developing and supplying small turbine drive units for the aerospace industry for half a century. The company celebrated the 20th anniversary of cooperation with the manufacturers of Mil helicopters. PBS mainly supplies the Safir 5K/G MI auxiliary power unit (APU), which triggers the main engines of a significant number of Mi-17 helicopters. This APU has been designed for Russian Mi-8, Mi-17 and Mi-171 helicopters, which are among the most successful helicopters in the world in terms of both the number of units sold and the number of countries in which they fly. You can find the Mi-17 in more than 60 countries, including the Indian Air Force.

**Products for helicopters and jet aircraft**

PBS feels that their APUs are suitable for civil and military helicopters, training and light combat planes and even business jet planes. Applications in ground military forces or marine applications are also feasible. They are incorporated into various configurations not only in several types of helicopters, but also in training and combat planes. Currently, PBS is following up on previous cooperation with the development and supply of several systems for the new generation of aircraft, for example the Czech aircraft L-39NG, L-159 and others. This includes the environmental

control system, some fuel system instruments, the EMG-200 starter generator and other devices.

**Turbine engines**

PBS corporation is also well-known turbojet engine supplier. Their jet engines have been installed in over 1,300 aircraft worldwide. With certification to the European Aviation Safety Agency (EASA) standards, their quality makes them stand out from competing engines in their category. Due to their reliability and weight-to-thrust ratio are suitable for use in the military industry and any UAV and UCAS projects. The worldwide recognised turbojet engine PBS TJ100 belongs to the 4th generation of this type of engine and PBS INDIA supplies the complete range of these engines throughout India.

**Development and innovations**

PBS continuously invests in development and has high-quality technical support and development and testing capacities available. The latest addition to the PBS turbojet engine family is TJ100P - an oil-free version of the famous PBS TJ100 engine. The company continually extends the time limits of overhauls for the Safir 5K/G MI, thus increasing its competitiveness.

The Mil Mi-171A2 has attained certification in India of the type for civilian use issued by the Civil Aviation Authority of India and PBS CS-M1V environmental control system for the new type of Mi-171A2 helicopter is another example of successful development. This system can heat and cool simultaneously, not only in the cockpit, but also in the cargo space of the helicopter.

**Cryogenics and investment casting**

PBS investment casting foundry with more than 50 years' experience focusses mainly on blades and segments of stationary gas turbines, turbocharger wheels for automotive, impellers and guide wheels for aircraft engines, spinner discs for the glass industry and femoral components for the healthcare sector.

PBS also supplies compressors, pumps and helium expansion turbines for the cryogenic industry and very low temperatures from 4 to 150 K. ■