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THE FINANCIAL EXPRESS

Wed, 29 Jan 2020

Deadly AH-64E Apache attack helicopters to be made in India

A joint venture with between Boeing and Tata Advanced Systems Ltd. (TASL) -- Tata Boeing Aerospace Limited (TBAL) established in 2016 has been manufacturing fuselages for the AH-64 Apache

By Huma Siddiqui

An order for six AH-64E Apache attack helicopters for the Indian Army which is expected to be placed this year will be made in India. The $ 930 million will be through the Foreign Military Sales (FMS) and is in addition to the existing order of 22 machines for the Indian Air Force (IAF). While the approval of the Cabinet Committee for Security is awaited, according to one of the US aerospace 's giant Boeing Company has already planned to make the critical parts of the attack helicopter here in India. Talking to Financial Express Online, Michael M Koch, Vice President, India, Defense, Space & Security, "Fuselage and most of the additional structures of the helicopter will all be made here locally."

Indian companies involved in Apache Helicopters

A joint venture with between Boeing and Tata Advanced Systems Ltd. (TASL) — Tata Boeing Aerospace Limited (TBAL) established in 2016 has been manufacturing fuselages for the AH-64 Apache.

With 90 per cent parts sourced from Indian suppliers, this advanced facility is expected to become the sole producer of AH-64 fuselages globally.

Indian company Rossell Techsys which has been a long-standing supplier of Boeing since 2013 has been playing a critical role in supplying high-quality electrical panel for the AH-64 Apache. And has also been making wire harness for the helicopter.

"From the existing 160 industrial partners the number has gone up to 200 and still growing," according to Koch.

Bengaluru based Dynamatic Technologies Ltd; one of the very first companies from the Indian private sector was approved by the Boeing Company to be a supplier. This company has played a critical role in the building of the fuselage for the helicopter.

By the year-end, as per the contract IAF is expected to induct all the 22 Apache Helicopters which are replacing the Russian MI25/35 gunships, which are gradually being phased out.

Last year in June, the US State Department had given its approval for an additional sale of the attack helicopters for the Indian Army and the Defence Security Cooperation Agency (DSCA) notified the US Congress about the value of the deal — $ 930 million.

Skill India & Make in India

"Company's wholly owned engineering and technology campus with future avionics manufacturing and assembly capability is coming up near the third runway in Bengaluru. And, the focus is on not only creating a supply chain but also to create a world-class aerospace ecosystem in India," said Koch.

"This one of the largest direct investments of the Boeing Company outside the US."

Plans MRO for Military Aircraft in India

Responding to a question, Koch said that "Boeing is already providing MRO services for the commercial airlines in India. And we see that there is a similar opportunity in the military side."

Recently, heavy check of the Long-Range Anti-submarine Warfare P8 I aircraft was done in India. “This was possible because of our local partnership and strategic interests.”

“We can bring the best of Boeing to India. As a company, we have a decade of research and technology presence in India. Boeing Research & Technology-India — a team of researchers, is our company’s advanced central research and development organization here in India.”

“This team has the best engineers, design engineers, researchers who are involved in not only India related programmes but also for future US programmes.”

Besides the joint venture with Tata, the US Company also has a tie-up with state-owned Hindustan Aeronautics Limited (HAL) which has been the long-term supplier in India for a quarter of a century. It also has a tie-up with Mahindra Defence Systems (MDS).

“We see these companies playing an essential role in various programmes,” he added.

https://www.financialexpress.com/defence/deadly-ah-64e-apache-attack-helicopters-to-be-made-in-india/1838359/

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Wed, 29 Jan 2020

BSF to be armed with anti-drone system for border near Jammu & Kashmir soon

Anti-drone systems will soon be put in place along the IB in Jammu-Samba-Kathua belt to foil any attempt by Pakistan to effect a drone intrusion in future. "The process of induction is on," one of the officials said, adding that initially five to six systems will be deployed in the area of operation on the Jammu frontier

BSF troops guarding the 200-km-long International Border (IB) in Jammu and Kashmir will soon be armed with anti-drone system, officials said on Tuesday, a day after a Pakistani drone was downed in Arnia sector.

"We are working on it," a senior officer told .

On Monday night, alert BSF troops shot down a Pakistani cameraless drone along the IB in Arnia sector of Jammu district, officials had said just after the interception.

Another set of officials said on Tuesday that anti-drone systems will soon be put in place along the IB in Jammu-Samba-Kathua belt to foil any attempt by Pakistan to effect a drone intrusion in future.

"The process of induction is on," one of the officials said, adding that initially five to six systems will be deployed in the area of operation on the Jammu frontier. The force is also training troops to handle these systems, the official said.

In October last year, the BSF had issued an Expression of Interest (EoI) for acquiring the 'Anti Drone System'. The EoI was issued after several instances of UAVs dropping arms in Punjab from across the border were reported.

As per the specifications, the force has sought a ground-based anti-drone system in stand-alone platform. The instrument will run on rechargeable batteries, the BSF has stated as the system has to be deployed in tough-to-access border areas that includes dense forests, desert, rivers and others.

The system, the BSF specification said, should be capable to detect a lone suspicious flying object or group of UAVs (swarm attack) from a distance and should be capable to detect a target them within 10 seconds.

It (system) should be capable to do a real-time scan, detection, track and neutralisation of flying objects like multi-copters, fixed wing UAVs and radio-controlled UAVs in 360-degree environment, the October draft specifications said.

The force also desires that the prospective technology should have the "capability" to track multiple UAVs in a specified range and it should be able to neutralise the flying objects by jamming its radio and GPS (global positioning system) links simultaneously and also trigger signals to force land the drone.

https://economictimes.indiatimes.com/news/defence/bsf-to-be-armed-with-anti-drone-system-for-border-near-jammu-kashmir-soon/articleshow/73701217.cms

hindustantimes

Wed, 29 Jan 2020

'Defexpo will see participation of 702 exhibitors'

As many as 165 foreign companies will also showcase their equipment, say officials

Lucknow: The state capital is gearing up to host the 11th edition of the International Defence Expo-2020 to be organized at Sector 15, Vrindavan Yojna here from February 5 to 9.

The expo, which is likely to be inaugurated by Prime Minister Narendra Modi, aims at bringing leading technologies in the defence sector under one roof and provide opportunities for tie-ups between the government, private manufacturers and start-ups.

Defexpo is part of the defence corridor project sanctioned by the Centre for UP. Bundelkhand region of the state is the biggest beneficiary of this project.

"The expo will see participation of 702 exhibitors. Of these, 542 will be Indian and 160 foreign exhibitors. Besides, 160 MSMEs will take part in the event," said Gargi Malik, public relations officers (PRO), defence, while addressing a press conference on Tuesday.

She said the inaugural ceremony of the DefExpo-2020 will be held on February 5, during which the prowess of the Indian Army and Indian Air force (IAF) will be on display in the form of a live demonstration.

While military equipment, developed by the DRDO, will be showcased, a display of skills by the Daredevils team of the Corps of Signals will be a major attraction of the mega exhibition.

She said entry will be free for the public on February 8 and 9 (Indians and foreigners) while business visitors can visit the expo on February 5, 6 and 7. Entry charges would be Rs 2,500 and Rs 5,000 for Indians and foreigners, respectively.

"Till date, the government has approved 65 MoUs that will be signed with companies for investment in the defence corridor. These companies will be given 50% discount on purchase of land for setting up their units," said Satish Mahana, industries minister, UP.

The expo would showcase a large number of military equipment. These include the Army's Tk-T-90, BMP, Simulators Firing Range, Surface Mine Clearing System (SMCS), Bridge Layer Tank , Full Width Mine Plough, 155mm Bofors, Anti Tank Guided Missile Launcher, Camouflaged Motor Cycle, Cheetah Helicopter, Armoured Recovery Vehicle (ARV), AKASH - Surface To Air Missile, K-9 VAJRA, Ultra-Light Howitzer (ULH M-777), Tunguska AD System, Schilka AD System, Pinaka and others.

The Defense Research and Development Organisation (DRDO) would display equipment like Arjun Tk, Modular Bridging System, Advanced Carbon Composite Modular Bridging System, Wheeled Armoured Platform (Wh AP), Counter Mine Flail (CMF) Medium Power Radar, Remotely

Operated Vehicle (ROV), Advanced Towed Artillery Gun System (ATAGS) and Unexploded Ordnance Handling Robot (UXOR).

Officials said 165 foreign companies will also showcase their defence equipment at the expo while the state government was expecting an investment of more than Rs 3,700 crore from the event.

Companies from US, UK, France, Norway, Germany, Brazil, Russia, the Czech Republic, South Korea, Israel and Sweden among other countries will showcase their equipment, they said.

Gargi Malik said city dwellers will have a rare opportunity to see Indian Navy and Coast Guard operating at the Gomti Riverfront.

Water scooters of the Indian Navy had already reached the Gomti riverfront on Tuesday.

"Live demo by Navy and Coast Guard, symphony of Indian Army, Navy and AF band and cultural programmes will be running concurrently at the Gomti riverfront. It will be open for the general public on all days from Feb 5 to 9," she added.

https://www.hindustantimes.com/cities/defexpo-will-see-participation-of-702-exhibitors/story-YC1jqKMdFHWRnBIStrCJ5J.html

THE NEW INDIAN EXPRESS

Wed, 29 Jan 2020

IIT techo fest from Jan 31

The 10th edition of Wissenaire, annual techno-management festival of Indian Institute of Technology (IIT), Bhubaneswar will commence on January 31

The 10th edition of Wissenaire, annual techno-management festival of Indian Institute of Technology (IIT), Bhubaneswar will commence on January 31.

The three-day fest will be based on the theme 'Cosmic Expeditions: Astounding Odysseys Ensuring Humanity's Existence' hopes to raise the bar set by previous editions, said the IIT officials. The opening night of Wissenaire'20 will be graced by Director General (Life Sciences) DRDO Manas Kumar Mandal as the chief guest. The event will be presided over by IIT-BBS Director Prof RV Raja Kumar.

Wissenaire will showcase exhibits from DRDO, Indian Army and various other gadgets and innovations. The fest will also host a series of talks on the second night 'TekNite' by industry specialists.

Workshops pertaining to latest standards and topics such as Mercedes Engine Analysis, IoT with Google Assistant, Hexapod, Big Data and Data Analytics, Bridge Design, Web Development, Artificial Intelligence and Machine Learning, Social Media Marketing and SEO will be conducted.

The third night of the fest 'Magnavista' will conclude with the performance of Dhvani Bhanushali. "What excites IIT Bhubaneswar the most about space technologies is that it's an opportunity for us to put the best of humanity forward into the future. With greater influx of capital pouring into this new frontier of modern-era research, we have witnessed enormous strides in technology that promises to secure an optimistic prospective. This has been the underlying impetus for Wissenaire'20 to adopt it as the theme," said the IIT BBS Director.

Two prelude events 'UMEED' a blood donation camp and 'Plant for planet' a plantation drive was organised by the institute. Both the events received huge participation, officials said.

https://www.newindianexpress.com/cities/chennai/2020/jan/29/iit-techo-fest-from-jan-31-2096026.html

THE FINANCIAL EXPRESS

Wed, 29 Jan 2020

NASA's new solar mission to take first pictures at Sun's poles

The spacecraft will use Venus's and the Earth's gravity to swing itself out of the ecliptic plane -- the swath of space, roughly aligned with the Sun's equator, where all planets orbit

NASA, in collaboration with the European Space Agency (ESA), is launching a new spacecraft next month to snap the first pictures of the Sun's north and south poles, the US space agency announced on Tuesday.

The Solar Orbiter spacecraft will have its first opportunity to launch from Cape Canaveral in the US on February 7, 2020, NASA said in a statement.

The spacecraft will use Venus's and the Earth's gravity to swing itself out of the ecliptic plane — the swath of space, roughly aligned with the Sun's equator, where all planets orbit.

"Up until Solar Orbiter, all solar imaging instruments have been within the ecliptic plane or very close to it," said Russell Howard, a space scientist at the Naval Research Lab in the US.

"Now, we'll be able to look down on the Sun from above," said Howard, who is also the principal investigator for one of Solar Orbiter's ten instruments.

The Sun plays a central role in shaping space around us. Its massive magnetic field stretches far beyond Pluto, paving a superhighway for charged solar particles known as the solar wind.

When bursts of solar wind hit Earth, they can spark space weather storms that interfere with our GPS and communications satellites — at their worst, they can even threaten astronauts, the researchers said.

To prepare for arriving solar storms, scientists monitor the Sun's magnetic field.

However, their techniques work best with a straight-on view, and the steeper the viewing angle, the noisier the data.

The sidelong glimpse we get of the Sun's poles from within the ecliptic plane leaves major gaps in the data, according to NASA.

"The poles are particularly important for us to be able to model more accurately," said Holly Gilbert, NASA project scientist for the mission.

"For forecasting space weather events, we need a pretty accurate model of the global magnetic field of the Sun," Gilbert said.

The Sun's poles may also explain centuries-old observations, the researchers said.

In 1843, German astronomer Samuel Heinrich Schwabe discovered that the number of sunspots — dark blotches on the Sun's surface marking strong magnetic fields — waxes and wanes in a repeating pattern.

Today, we know it as the approximately-11-year solar cycle in which the Sun transitions between solar maximum, when sunspots proliferate and the Sun is active and turbulent, and solar minimum, when they're fewer and it's calmer.

"But we don't understand why it's 11 years, or why some solar maximums are stronger than others," Gilbert said.

Observing the changing magnetic fields of the poles could offer an answer, NASA said.

The only prior spacecraft to fly over the Sun's poles was also a joint ESA/NASA venture.

Launched in 1990, the Ulysses spacecraft made three passes around our star before it was decommissioned in 2009.

However, Ulysses never got closer than Earth-distance to the Sun, and only carried what is known as in situ instruments — like the sense of touch, they measure the space environment immediately around the spacecraft.

Solar Orbiter, on the other hand, will pass inside the orbit of Mercury carrying four in situ instruments and six remote-sensing imagers, which see the Sun from afar.

"We are going to be able to map what we 'touch' with the in situ instruments and what we 'see' with remote sensing," said Teresa Nieves-Chinchilla, NASA deputy project scientist for the mission.

After years of technology development, it will be the closest any Sun-facing cameras have ever gotten to the Sun, according to NASA.

https://www.financialexpress.com/lifestyle/science/nasas-new-solar-mission-to-take-first-pictures-at-suns-poles/1837715/

The Indian EXPRESS

Wed, 29 Jan 2020

It's time to say goodbye to NASA's Spitzer Space Telescope. Here's why

It's one of NASA's Great Observatories

By Meghan Bartels

How does NASA know it's time to end a mission? For the Spitzer Space Telescope, the agency can blame it on the spacecraft's juice.

Specifically, Spitzer's struggle comes from trying to balance charging its battery, communicating with Earth and keeping its instruments cool. When it launched in 2003, those tasks didn't interfere much with each other, but the longer the mission continued, the bigger a challenge it became. And so, on Jan. 30, more than 16 years after its launch, NASA will send the spacecraft its final commands.

"There is a natural end to the mission and we are reaching it," Luisa Rebull, an astronomer at the NASA Infrared Science Archive at the California Institute of Technology, which hosts Spitzer's data, told Space.com.

Spitzer was designed to focus on infrared light, which lets scientists see through dust that obscures the view of other types of telescopes. During its tenure, the spacecraft, which has cost a total of $1.36 billion over two decades, has used that talent to tackle astronomical puzzles like how stars and planets form.

"We see star-forming regions, we see galaxies forming and merging and just a whole cornucopia of objects in space that are not visible to our eyes in the optical, but are visible in the infrared," Suzanne Dodd, former mission manager for Spitzer, said during a news conference held today (Jan. 22).

That's because of something special about Spitzer.

"One of the unique things about Spitzer that makes this all possible is its orbit," Dodd said. Spitzer orbits the sun, tagging along behind Earth and slipping a bit farther away from us each year. "It's drifting from the Earth and the moon, so it's not getting the infrared radiation that the Earth and moon system create." Without that interference, Spitzer can gather better data.

But eventually, that orbit means the spacecraft will be on the opposite side of the sun from Earth for a long period of time — a clear no-go for space communications. Right now, Spitzer is about a third of an orbit behind Earth, so the sun isn't yet blocking communications.

But even now, the logistics of the mission are becoming challenging. The farther Spitzer lags behind Earth, the more dramatically the spacecraft has to twist itself in order to communicate back to its scientists. That stresses the spacecraft's solar-charged batteries, Rebull said, and when they finally get to recharge, the batteries warm up.

"That's not good when you're trying to detect little bits of heat," she said — that would be the infrared light Spitzer targets, which is essentially radiated heat.

There's a second hot problem with the maneuver: The more the spacecraft twists, the more sunlight reaches part of the spacecraft that are supposed to stay cool. The longer the mission continues, the more time Spitzer scientists lose to this process. "You have to wait for the batteries to recharge and then everything to cool down again before you can keep observing," Rebull said.

Eventually, the spacecraft won't be able to make that maneuver at all, she added — it would run out of power while sending data back to Earth. That's why NASA made the decision to shut the telescope down. Spitzer will gather its last observations on Jan. 29 and turn off the next day.

Then, scientists will be left with hopes that another space telescope dedicated to the infrared will someday take its place — and, of course, with the data Spitzer has gathered over 16 years. It's a melancholy time for mission scientists, but not an unexpected one.

"I know it's just a space robot," Rebull said. "But he's our space robot."