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AEROMAG ASIA

a magazine dedicated to aerospace & defence industry

May - June 2023 | Vol 17 | Issue 3

All set for the scintillating Paris Air Show!

Schiebel CAMCOPTER® S-100
shows off its outstanding
experience at Paris Airshow





Asia's largest event on Civil Aviation
(Commercial, General and Business Aviation)



**WINGS INDIA
2024**

18th - 21st January 2024
Begumpet Airport, Hyderabad, India

In pursuance of the Hon'ble Prime Minister's vision to fulfil the common man's aspirations of flying and the grand success of the previous edition, Ministry of Civil Aviation (MoCA), Government of India, Airport Authority of India (AAI) and Federation of Indian Chambers of Commerce and Industry (FICCI) are organizing the next edition of '**WINGS INDIA 2024**', a flagship event on Civil Aviation sector in this part of the world. The event is scheduled from 18th to 21st, January 2024, at Begumpet Airport, Hyderabad, India.

Wings India 2024 will be the most comprehensive event on the Civil Aviation Industry calendar that includes the Inaugural Ceremony, Global Ministerial Conference, Global CEOs' Forum, B2B / B2G Meetings and Awards Ceremony, Cultural Evening & Business Networking Dinner. Also, the event includes Exhibition, Chalets, Demonstration flights, Static Display, Media Conferences, One-to-One Business Meetings and many more.

Event Format

EXHIBITION



CONFERENCE



CHALETS



CEOs FORUM



STATIC DISPLAY



MEDIA CONFERENCES



AWARDS



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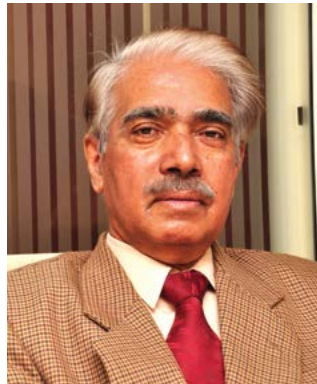
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EDITORIAL

Global Aerospace Industry Converges on Paris



At a time when the global aerospace industry is recovering from the huge impact caused by the Covid pandemic, the International Paris Air Show once again brings the entire industry together after a gap of four years. The 54th edition of the International Paris Air Show will be held from 19 to 25 June at Le Bourget.

Paris Air Show is the oldest and biggest event for the aerospace industry. Ever since its inception more than a century ago, Paris Air Show has been the key event for the global aeronautics and space industry for

being a major catalyst for industrial development and collaboration. The vast popularity of the show and the high levels of international attendance make it an unmatched platform for conducting business, creating new contacts, enhancing business opportunities and discover latest innovations and developments. All companies, constructors, components manufacturers and systems developers use the event to present their latest innovations and major aviation and space technologies and trends. With 2,453 international companies from over 100 countries, the Paris Air Show allows companies to expand their network and business, it offers multiple commercial and marketing opportunities.

The show will mark a high-level participation of Indian delegation including several Defence Public Sector Undertakings, private companies, Ministry of Defence officials etc. India will aim to forge new partnerships besides highlighting the prowess of its growing aerospace and aviation industry. The show will have considerable involvement of the French State with the organization and reception of delegations (Defence, DGA (General Directorate for Armament), DGAC (Directorate General for Civil Aviation), etc and there will be a strong presence of political decision-makers. Government of India, Ministry of Defense has already made it very clear that Indian industries as well as foreign OEM suppliers, India's renewed vision of establishing greater self-reliance through indigenous design, development in partnership with foreign OEMs and their Tier-1 and Tier-2 suppliers to make in India, for India and also for the Global Market. The Indian industries must create greater awareness with the foreign OEMs and their supply chain industries to partner with Indian Industries for Making in India, for India and for Global Market, taking advantage of the large market and low-cost high-quality infrastructure and skilled labour availability. Indian industries and other delegates will continue to drive this point and also give wide publicity to proactive policies of the government in encouraging partnership between Indian companies and foreign OEMs and their Tier-1, Tier-2 Innovation and Supply Chain partners.

Aeromag and Society of Indian Aerospace Technologies and Industries (SIATI) wish success to all delegates in building partnership for mutual benefit.

Dr C G Krishnadas Nair
Honorary President, SIATI



MEET TEAM USA

AT THE PARIS AIR SHOW 2023

6500
TOTAL
SQUARE
METERS

110 EXHIBITORS
NEW-TO-SHOW
90 EXHIBITORS
NEW-TO-MARKET

300+
U.S.
EXHIBITORS

NEW
SME
ZONE

200+
SMEs

NEW
START-ME-UP
ZONE

16
START-UP
COMPANIES

LARGEST U.S. PRESENCE TO DATE

17 STATE PAVILIONS

ALABAMA
ARIZONA
ARKANSAS
CALIFORNIA
CONNECTICUT
ILLINOIS

KANSAS
LOUISIANA
MISSISSIPPI
NORTH CAROLINA
OHIO
OKLAHOMA

SOUTH CAROLINA
TEXAS
UTAH
VIRGINIA
WASHINGTON

36
STATES
REPRESENTED

LARGEST PARTNERSHIP CHALET
WITH **21 CHALET** CLIENTS

2,230 SQM
OF CUSTOM BUILDS BY
KALLMAN CREATIVE SERVICES

35 CUSTOM BUILDS
BY KALLMAN
CREATIVE SERVICES

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Modi, Macron Deepen Indo-French Strategic Ties



India and France have traditionally close and friendly relations. Defence cooperation with France is a key aspect of the overall bilateral relationship and the nations are celebrating 25 years of their strategic partnership in 2023, which provides a unique opportunity for introspection. At a time when both nations celebrate this milestone, Prime Minister Narendra Modi and French President Emmanuel Macron met each other and held a discussion on the sidelines of G7

Summit at Hiroshima in Japan on May 20. The leaders have discussed several issues aimed at further deepening the India-France strategic ties in various key sectors like trade and defence and took stock of the advance within the India-France Key Association. The future of Indo-French defence relations looks promising, with both nations committed to expanding their strategic partnership and it will reflect on Modi's prospective visit to France for Bastille Day on July 14.



The Indo-French defence ties can be traced back to the early 20th century, with the establishment of diplomatic relations between India and France. However, it was during the 1990s that the defence cooperation gained momentum and evolved significantly establishing a strong foundation for strategic partnership and a close and dynamic relationship based on shared values and commitment to promoting peace, security, and sustainable development.

With similar interests and geopolitical interests, both nations have successfully collaborated in various defence sectors. In 1998, the two countries entered into Strategic Partnership which is emblematic of their convergence of views on a range of international issues apart from a close and growing bilateral relationship. Ever since then the growth of the Indo-French defence relations has been multidimensional in nature and it has witnessed substantial growth and diversification over the years, reflecting the shared strategic interests and mutual trust between both countries.

At a time when both nations celebrate the 25th anniversary of the Strategic Partnership, Prime Minister Narendra Modi and French President Emmanuel Macron met each other

and held a discussion on the sidelines of G7 Summit at Hiroshima in Japan on May 20. Now is a fitting time to reflect on the successes and achievements of this special relationship and look ahead to a bright and prosperous future.

Modi-Macron Meeting

France has always reiterated its commitment to India's vision of 'Atmanirbhar Bharat (self-reliant India)' and defence industrialisation, joint research and technology development in India across a wide range of advanced capabilities. Besides taking stock to the key Indo-French association and discussing several issues aimed at further deepening the India-France strategic ties in various key sectors like trade and defence, the leaders have even discussed Modi's prospective visit to France for Bastille Day.

The leaders reviewed with satisfaction the progress in their Strategic Partnership in various areas, including cooperation in trade, civil aviation, renewables and manufacturing in the defence sector, as well as civil nuclear cooperation. According to the Ministry of External Affairs (MEA), they agreed to expand the partnership to newer domains. Prime Minister thanked President Macron for

France's support for India's G20 Presidency. The leaders exchanged views on regional developments and global challenges.

"Excellent meeting with President@EmmanuelMacron. We had the opportunity to discuss several issues aimed at further deepening of India-France ties including trade, culture and more," Prime Minister Modi tweeted after the meeting.

Defence Cooperation

France was one of the first countries with which India signed a strategic partnership after the end of the Cold War, in January 1998. France was one of the very few countries to support India's decision to test nuclear weapons in 1998.

Defence Procurement: France has emerged as a key defence partner for India, becoming the second largest defence supplier in 2017- 2021. France has emerged as a major strategic partner for India with crucial defence deals and increased military-to-military engagement. The induction of the French Scorpene conventional submarines, being built in India under technology transfer agreement of 2005, the Indian Air Force having received Rafale fighter jets and the Tata group tying up with Airbus to



manufacture C-295 tactical transport aircraft in Vadodara, Gujarat are examples.

Furthermore, cooperation in naval vessels, submarines, and artillery systems has strengthened the defence capabilities of both nations. There is great potential for enhancing collaboration in areas such as naval systems, unmanned systems and cyber-security.

Both countries have a defence dialogue at the Ministerial level. The two countries also signed the Agreement regarding the Provision of Reciprocal Logistics Support, which will help to facilitate the replenishment of fuel, rations, spares, and berthing and maintenance for the other nations' warships, military aircraft and troops during routine port calls, as well as during Humanitarian Assistance and Disaster Relief (HADR).

Joint Exercises: Regular joint military exercises have played a vital role in strengthening Indo-French defence cooperation. These exercises, conducted across the land, air, and sea domains, have provided an opportunity for both armed forces to exchange knowledge, expertise, and best practices. Notable exercises include the Garuda series (air force), Shakti series (army), and Varuna series (navy).

Counter-terrorism and Intelligence Sharing: In an era of increasing global threats, India and France have collaborated closely in countering terrorism and sharing intelligence. Both countries have faced the challenge of terrorism and have actively cooperated in intelligence sharing, joint operations, and capacity building. This collaboration has not only strengthened the security apparatus of both nations but also contributed to global efforts against terrorism. France backed the India's proposal for a global conference on terrorism. Both the countries also support organising a new "No Money for Terror"

- an International Conference on Fighting Terrorist Financing.

Defence Technology Cooperation: Indo-French defence relations have witnessed significant advancements in technology cooperation. Joint research and development projects, technology transfers, and collaboration in defence research organizations have facilitated the exchange of knowledge and innovation. This has enabled India to enhance its indigenous defence capabilities while providing France with access to the Indian market.

Defence Agreements: Several defence agreements have been signed between India and France to institutionalize their cooperation and provide a framework for strategic engagement. The Strategic Partnership Agreement (1998) laid the foundation for Indo-French defence relations, emphasizing cooperation in defence, security, and technology.

The Agreement on the Protection of Classified Information (2009) enabled the exchange of sensitive defence-related information, enhancing mutual trust and cooperation. Defence Cooperation Agreement (2016) aimed to deepen the partnership in areas such as counterterrorism, maritime security, joint exercises, and defence industry collaboration.

During President Emmanuel Macron's visit in 2018, India's relationship with France expanded further with the signing of 14 governmental and 14 business agreements.

Challenges in India-France Relations

Despite having good relations, France and India are yet to have a Free Trade Agreement (FTA) between them. Also, the India-EU Broad based Trade and Investment agreement (BTIA) is seeing no progress. Moreover there is a trade imbalance between India and France, with France exporting

more to India than the other way around. This imbalance has been a source of concern for India, and both countries are looking for ways to address it.

Despite a strong defence partnership, the two countries have different priorities and approaches towards defence and security cooperation. India's focus on its neighbourhood and its 'non-aligned' policy can sometimes clash with France's global interests. Another pressing issue is the China Factor. China's increasing dominance in the Indian Ocean region has become a source of concern for both India and France, as it has the potential to disrupt the regional balance of power and undermine regional stability and security.

The Future of Indo-French Relations

France and India are linked via common values, a shared commitment to democracy, and a will to support and defend multilateralism and international law. Both nations are working to promote a multipolar world, governed by the law and respecting sovereignties and the concrete relationship between France and India is thus a driver for responding to global challenges such as peace and security.

France, which had sought strategic autonomy within the framework of its alliance with the US, and India, which has valued independent foreign policy, are natural partners in building the new coalitions for an uncertain era. France also opens the pathway for deeper engagement with Europe on global issues, especially after uncertainty in the region due to BREXIT.

The new partnerships with France, Germany and other like-minded countries like Japan would hopefully turn out to be far more consequential for India's influence on the global stage. There are several key areas of focus to further the cooperation. ■

Paris Airshow: IAI to showcase best of its developments, both civilian and military aviation



Israel Aerospace Industries will be presenting the best of its developments for both civil and military markets at the Paris Airshow. The biennial Air Show is one of the most world's most prestigious aviation and space events, a meeting place for both companies, decision-makers, and senior personnel from around the world. IAI's advanced systems will be displayed in an impressive booth, marking 70 years of innovation and specialist knowledge and experience, and a celebration to mark the 70 years since the company was founded will be held at the IAI booth.

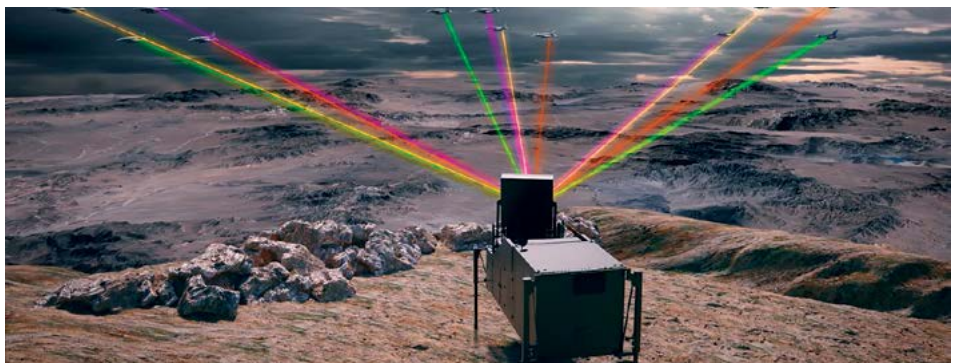
Boaz Levy -
President & CEO, IAI

Among the products to be displayed by the company (at Booth C64 in Hall 3), will be the Arrow defensive weapon system, designed to intercept ballistic missiles outside the earth's atmosphere, which plays a central role in the State of Israel's multilayer defense; the Barak air-defense system which enables incoming threats to be managed and neutralized, and is in operational use with the Israel Navy, the Indian Army, and other armed forces around the world; the Heron Mk2 unmanned aerial vehicle, a critical component in acquiring targets in the battlefield; and the Scorpion Electronic Warfare system, which is able, in parallel, to receive, block, and interfere with secure communications from multiple threats at different frequencies and from different directions. Other company products such as loitering munitions and radars will also be on display.

IAI will also be showing a model of the Boeing B777-300ER aircraft, which, for the first time ever, has been converted from a passenger- to a freight- configuration. Last March, the aircraft's first test flights were concluded, an additional milestone within the framework of achieving licensing approval by the civil aviation authorities. Israel Aerospace Industries is considered the world leader in aircraft upgrade and conversion and this

latest example joins previous aircraft types such as the B767-200/300, B747-400, and the B737-700/800, which have been successfully converted by the company.

Boaz Levy, IAI's President and CEO: "We are happy to again be taking part in the Paris Air Show, which represents a unique opportunity to display and present our many products and provides so many opportunities for business cooperation. This year, as we mark 70 years since the company was first founded and 75 years since the State of Israel came into being, the company's story is intimately interwoven with that of Israel, as it puts the Zionist dream into practice – a dream of activity, innovation, and progress. We look back at our rich history with pride and look forward to the next 70 years in the expectation of continuing to lead and form anew the worlds of defense and security, aviation, and space."



Schiebel CAMCOPTER® S-100 shows off its outstanding experience at Paris Airshow



Neil Hunter
Global Head of Business Development at Schiebel



In Europe, the CAMCOPTER® S-100 Unmanned Air System (UAS) is currently being operated by the European Maritime Safety Agency (EMSA) and the French Navy. The new additions to Schiebel's client portfolio in 2023 are the UK Royal Navy and the Spanish Maritime Safety and Rescue Society (SASEMAR).

In 2019, the S-100 was integrated onto the French Navy Mistral class amphibious assault ship PBC Dixmude where it was operationally tested and evaluated. In 2020, four additional S-100s were ordered and delivered to be deployed on the PBC Tonnerre and PBC Mistral. The French Navy have stated that the



UAS significantly enhances the helicopter carriers' Intelligence, Surveillance and Reconnaissance (ISR) capabilities. The S-100 has proved to be a crucial asset in several missions, including several anti-drug smuggling seizures.

Through a competitive process, The UK Royal Navy awarded Schiebel and Thales its "Peregrine" UAS contract. The contract will deliver the S-100 fitted with a powerful naval surveillance sensor suite to provide

a comprehensive maritime capability protecting Royal Navy ships on operational tasks. The S-100's rapid launch ability, its impressive mission endurance and its ability to carry high quality sensors all combine to find, track and identify targets well beyond the ship's radar horizon, providing additional protection for the ship and its crew. High-definition imagery and radar data downloaded to the system operator and transmitted in real-time

into the ship's Combat Management System (CMS), will provide the crew with invaluable time to prepare and enact operational decisions.

Also under contract to the European Maritime Safety Agency (EMSA), the S-100 supports various European authorities with maritime surveillance and emission monitoring in a number of European countries, e.g. Romania, Croatia, France, Germany, Denmark, Finland, Sweden and many more. Typical tasking for EMSA includes vessel traffic monitoring, environmental protection and Search and Rescue (SAR). To execute these operations, the S-100 is equipped with an EO/IR camera gimbal and an Overwatch Imaging PT-8 Oceanwatch.

The S-100 is the only proven VTOL UAV in its class. As a market leader in rotary UAS, Schiebel has gained extensive experience around the world over the last 20 years. With several hundred thousand flight hours across the fleet in all climatic conditions, several hundred UAVs delivered to customers on five continents and having operated from more than forty classes of ships, the S-100's experience, pedigree and maturity is second to none.

The multi-role, multi-domain UAS caters to the specialised needs of navies, armies, air forces and commercial customers alike. The payload-agnostic unmanned aircraft allows customers to add a robust and value-for-money "eye in the sky" to their existing capabilities, allowing for the provision of Intelligence, Surveillance and Intelligence (ISR), Search and Rescue, environmental protection, vessel detection, cargo delivery and more.

In addition to the successes of the S-100, Schiebel is in the development phase of a bigger variant of the S-100, the CAMCOPTER® S-300 with the key parameters:

- Maximum payload capacity of around 340 kg with a maximum take-off weight of 660 kg.
- 4.8 meters long, 1.9 meters high, 0.9 meters wide.
- Maximum endurance of about 24 hours.
- Maximum speed of 120 knots (cruising speed 55 knots).
- Powered by an aviation approved heavy fuel engine, and its triple-blade folding rotor system allows the storage of the S-300 UAV in a standard 20-foot container.

Paris Air Show: Where Aerospace Leaders Get Down to Business



Since its launch in 1909, the International Paris Air Show has constantly grown, and remains the largest aerospace event in the world and the 54th edition is set to begin with the show having been fully-booked with exhibitors from 47 countries. After four years, the show is set to mesmerise the aviation and aerospace industry around the globe. “The Paris Air Show is the ideal opportunity to discover the sector’s latest innovations, build new partnerships and be at the industry nerve centre, all under one roof. Nowhere else offers access to the same level of business opportunities and discoveries,” said Gilles Fournier, the Chief Executive Officer (CEO), International Paris Air Show. Speaking to Aeromag, he talks about the latest updates of the air show which will cover industry challenges and innovations.

Gilles Fournier
CEO, International Paris Air Show

The 54th edition of the prestigious Paris Air Show will take place at the Le Bourget Parc des Expositions in June for the first time after the pandemic. How will be the show different from its previous editions?

After four years’ absence, there is a sense of renewed enthusiasm across the industry to come together, meeting face to face again.

Could you talk about the main agenda, theme and focus areas of the show this year?

A rich programme of events is planned across the seven days of the show covering latest industry challenges and innovation. The highlights of the feature events are the following.

Paris Air Lab: For its third edition, the Paris Air Lab will take you to the heart of the new air transport revolution, now fully-mobilized to face the challenge of decarbonisation. Responding to the commitments of carbon neutrality in 2050, taken at a global level, it is a profusion of programs, research projects, technological breakthroughs that will be illustrated along an exciting and educational journey spread over 1000sqm at the heart of the Show.



Paris Air Mobility will showcase the latest innovations and emerging technologies in eVTOL and bring together key players in this dynamic community for networking and

knowledge exchange.

The Paris Air Show in partnership with Aviation Week Network, will deliver a high level, innovative, forward-looking program



What are the main attractions for Indian companies at the show at a time when India is actively boosting its exports and modernization of Armed Forces?

The Paris Air Show is the ideal opportunity to discover the sector's latest innovations, build new partnerships and be at the industry nerve centre, all under one roof. Nowhere else offers access to the same level of business opportunities and discoveries.

of advanced air mobility content across 3 days during the Paris Air Show, bringing together subject matter experts to provide thought leadership on key challenges and opportunities facing the eVTOL industry.

Start-me-up: The aerospace industry is changing and has no choice but to ambitiously innovate in the face of new technological and societal challenges; the Paris Air Show reflects this evolution by welcoming French and International Start-ups free of charge. An opportunity to create meetings and synergies on prospective themes.

A great flying display will be organized each afternoon.

General Public Weekend: The Paris Air Show is one of the rare aerospace shows to welcome the general public. A weekend of fun with numerous events taking place across the halls and the static.

There are reports that bookings are already above expectations. How many countries and participants are you expecting?

An excellent 54th edition anticipated, the show is fully booked, with exhibitors from 47 countries.

India is expected to send a huge contingent to the Paris Air Show. How do you look at Indian participation in the show?

We are very proud to welcome back Indian companies with a mix of loyal and new participants. Hope to see again India among our official delegations and professional visitors.



BrahMos marks 25 Supersonic Years of Success with Users Meet



Chief of Defence Staff (CDS) General Anil Chauhan, Chief of Air Staff (CAS) Air Chief Marshal VR Chaudhari, Chief of Army Staff (COAS) General Manoj Pande, Vice Chief of Naval Staff (VCNS) Vice Adm. Sanjay Jasjit Singh and Atul D Rane, DG (BrahMos, DRDO) and CEO & MD of BrahMos Aerospace during the BrahMos Users Meet.

BrahMos Aerospace – the India-Russia Defence Joint Venture (JV) between DRDO & NPOM – on 31st May 2023 commemorated ‘25 Supersonic Years of Success’ by organising ‘BRAHMOS Users Meet 2023’.

Chief of Defence Staff (CDS) General Anil Chauhan graced the occasion along with Chief of Air Staff (CAS) Air Chief Marshal VR Chaudhari, Chief of Army Staff (COAS) General Manoj Pande and Vice Chief of Naval Staff (VCNS) Vice Adm. Sanjay Jasjit Singh.

Terming the formidable BRAHMOS Weapon System as the ‘Brahmastra’ of India, Gen. Chauhan, quoting national poet Ramdhari Singh Dinkar, said, “BRAHMOS missile systems in some manner symbolise ‘garal’, meaning lethality, and ‘bal’, meaning strength. It (the weapon) begets respect and I believe; it is there to promote peace.”

The global security environment is in a state of flux. This has given way to new alignments, new linkages and

partnerships. Most of the nations are reorienting their strategies towards the Indo-Pacific. Our strategic imperatives have increased manifold to sustain our rapid all-round growth and development, the CDS said.

“The global and regional security environment, hence, necessitates that India must continue to bring comprehensive national power at greater civil-military fusion and attain desired military capabilities to protect as well as promote its national interests,” Gen. Chauhan said.

While stating that strategic autonomy has always been the cornerstone of India’s foreign policy, he said that strategic capability promotes strategic autonomy. “Another way to achieve strategic autonomy is ‘Atmanirbharta’ (self-reliance).

The huge initiative of ‘Make-In-India’ ushered in by our Hon’ble Prime Minister is a foundation stone for a ‘Sashakt & Swayatt’ Bharat,” the Chief of Defence

Staff said.

In order to achieve ‘Atmanirbharta’ (self-reliance), a developing country like India needs to forge partnerships and alliances of different kinds, he stated. “BrahMos Aerospace is one such (joint) venture which is a major success story. It (the JV) has led to ‘Atmanirbharta’ in defence. One of the world’s finest and largest precision guided weapons, BRAHMOS has fortified India’s deterrence power in the 21st century.

The missile system has been successfully operationalised by the three Services and it’s truly a ‘Brahmastra’ of its times,” the Chief of Defence Staff said. “Today, as we move forward in our plans for greater jointness & integration in military operations, the role and scope of BRAHMOS gets widened further,” Gen. Chauhan said. “BRAHMOS is a weapon of choice for the three Services and it will help us promote interoperability between the Tri-Services,” he said.

As our defence indigenisation efforts



Dr.G.Satheesh Reddy, Scientific Advisor to Defence Minister, Govt. of India along with Atul D Rane, DG (BrahMos, DRDO) and CEO & MD of BrahMos Aerospace, Dr. Sanjeev K Joshi, Deputy CEO of BrahMos.

are gaining momentum under the flagship 'Make-In-India' programme, BrahMos JV has taken decisive leads in this direction. It is, in fact, promoting a large number of tier-I and tier-II (industries) & MSMEs, the Chief of Defence Staff stated. While mentioning the first BRAHMOS export order from the Republic of Philippines, Gen. Chauhan said that from 'Make-In-India, the JV enterprise has made a successful transition toward the 'Make-for-the-World' initiative.

The CDS also appreciated the diligent efforts by BrahMos Aerospace to design and build newer, more advanced variants of BRAHMOS, including the BRAHMOS-NG (next-gen). "The decision to set up a BRAHMOS (manufacturing) facility in the UP Defence Industrial Corridor is also a significant development," he said.

He also applauded the initiatives taken by BrahMos Aerospace to provide life extension services for the already delivered missiles and also providing after sales product support and maintenance support at all the facilities. "It's an important aspect for any business model," he noted.

Air Chief Marshal VR Chaudhari, in his remarks on the occasion, said that BRAHMOS has become the most lethal air combat asset of the Indian Air Force.

"The air-borne weapon on Su-30MKI fighters has tremendously enhanced the IAF's firepower. Today, the BRAHMOS modified Su-30MKI aircraft are almost

across all Squadrons of the IAF," the Air Chief Marshal said. Like the Brahmaputra and Moska rivers, there is great potential in the BrahMos JV which needs to be tapped fully. "I am sure the JV can look at scaling even greater heights as it reaches its 50th anniversary in the 100th year of India's Independence. This should be our aim," the IAF Chief said.

Addressing the gathering, Army Chief General Manoj Pande said that recent conflicts have shown that due to increased vulnerability of manned and unmanned platforms, missiles are emerging as 'the vectors of choice', especially when it comes to engaging targets at longer ranges or in-depth. "And a weapon system like BRAHMOS has become a vital instrument to protect our national interest," he said. "The Indian Army remains the largest user of BRAHMOS and the first deployment dates back to 2007. This 'force multiplier' has profoundly enhanced our long-range precision strike ability," Gen. Pande said.

Speaking on the occasion, Atul D Rane, DG (BrahMos, DRDO) and CEO & MD of BrahMos Aerospace said that the universal weapon's operationalization in the Tri-Services of India has made us the first & only nation in the world to possess a 'Supersonic Cruise Missile Triad'. "BRAHMOS has rightfully broken the "Fifth-nation Syndrome" for us," the BrahMos Chief said while quoting former President, iconic scientist &

'Missile Man' Dr. APJ Abdul Kalam. "It was the visionary scientist Dr. Kalam who played a pivotal role in giving shape to the BrahMos JV at a time when the lethality, formidability & indomitability of precision guided weapons in modern warfare was becoming evident," Rane said, while adding that Dr. A S Pillai, the founding CEO & MD of BrahMos, led from the front to accomplish what was unthinkable for many leading nations at that point of time. "Our supersonic journey of 25 incredible years has resulted in many 'firsts' for India. Over 100 test firings of BRAHMOS have been conducted from India's ground, ship and air platforms – both development trials & user/ acceptance trials – with an unbeatable success rate," the BrahMos Chief said. "Our strong commitment to be an equal shareholder with our Armed Forces in maintaining the BRAHMOS Weapon System(s) remains our paramount motto," he said.

Dr. Sanjeev K Joshi, Deputy CEO of BrahMos, concluded the mega event by thanking the Chief Guest, the Guests of Honour, officers from the Indian Armed Forces, scientists and engineers from DRDO & NPOM and other esteemed guests. "Thanks to the Indian Armed Forces for appreciating our after-sales Product Support. We assure best quality product support not only in peacetime, but also in wartime, Dr. Joshi said.

University of RABAT & IAI Sign MOU for Aeronautics and AI Center of Excellence



The International University of Rabat (UIR) and Israel Aerospace Industries (IAI) have signed a memorandum of understanding (MoU) to establish a center of excellence focused on aeronautics, artificial intelligence research and innovation. The agreement aims to strengthen cooperation and partnership in applied research, innovation, co-development and incubation. It follows the signing of a partnership agreement a few months ago between Nouredine Mouaddib, President of UIR, and Eytan Eshel, CTO of IAI, in the presence of Amir Peretz, formerly Israel's Deputy Prime Minister, Minister of Defense, and Minister of Economy and Industry, and currently Chairman of Board of Directors of IAI, and Boaz Levy, President and CEO of the company.

IAI's Chairman of the Board, Amir Peretz, said: "We are fortunate to be hosted here thanks to the generous leadership of Professor Nouredine Mouaddib, the President of the University of Rabat. This innovative institution is a sign of a new future being forged in Morocco for both the present and future generations. The most

vital mission is now to transform a dream into reality by establishing a program that will combine high-quality education across various fields, with a special emphasis on science and technology. By establishing the necessary industrial infrastructure, it will be possible to recruit new graduate students. Looking into the students' eyes, I can see their strong determination to succeed in this new center, bringing forth ideas which hopefully will serve not only Morocco and Israel, but also the entire world."

President of the International University of Rabat, Nouredine Mouaddib said "This center of excellence is the result of our collaborative efforts and joint commitment to promoting research, innovation, and entrepreneurship in the fields of aeronautics and AI. This initiative is totally in line with the strategy and vision chosen by our ministries and leadership. The UIR-IAI Aeronautics and AI Center of Excellence will certainly benefit from the "Rabat Salé Kénitra University Cluster," a vibrant research and technology hub, which hosts all kinds of talents, labs, institutes, facilities and experts committed to harnessing the collective intelligence and

collaboration on emerging technologies and challenges."

A signing ceremony for the establishment of the Center of Excellence in Aeronautics and Artificial Intelligence took place on May 22 on the UIR campus. This project serves to consolidate and strengthen the strategic partnership signed last November between UIR and IAI.

The signing of this agreement was presided over by Amir Peretz, Chairman of the Board of Directors of IAI, in the presence of H.E. Abdellatif Miraoui, Minister of Higher Education, Scientific Research and Innovation, H.E. Ryad Mezzour, Minister of Industry and Trade, as well as members of the university's board of directors and scientific teams specializing in advanced aeronautical research.

This Center of Excellence is a pioneering initiative that aims to promote cutting-edge research, innovation, technology and the creation of competitive national tech startups. The Center will foster collaboration and collective intelligence among various stakeholders, including academic institutions.



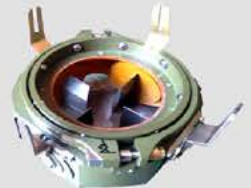
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IAI and ATLAS ELEKTRONIK unveil a joint development integrated in the BlueWhale unmanned submarine



The Blue Whale ASW in UDT Exhibition. Michael Ozegowski, Chief Executive Officer of ATLAS ELEKTRONIK, Eyal Shapira, VP& GM Air Defense & Naval Systems Division, ELTA IAI (Credit: ATLAS ELEKTRONIK)

Israel Aerospace Industries (IAI) and ATLAS ELEKTRONIK, a company of thyssenkrupp Marine Systems, officially launched their latest joint development for advanced anti-submarine warfare (ASW) missions at the Undersea Defence Technology (UDT) Conference and Exhibition in Rostock, Germany. In a festive ceremony at ELTA's exhibition booth, Eyal Shapira, Vice President and General Manager of ELTA's division for Air Defense and Naval Systems, and Michael Ozegowski, Chief Executive Officer of ATLAS ELEKTRONIK, unveiled the joint development, demonstrating an important milestone in the long-standing partnership between thyssenkrupp Marine Systems and the Israeli industry.

Based on ELTA's sophisticated BlueWhale autonomous underwater multi-mission platform (a large unmanned underwater vehicle with a wide range of advanced sensor systems), the system incorporates ATLAS ELEKTRONIK's unique, towed passive sonar triplet array. Unlike existing towed sonars, the combined system can function at depths traditionally exploited by submarines to avoid detection. An ATLAS transmitter, deployed from an autonomous (or manned) surface vessel, enables BlueWhale to perform bi-

static location and tracking of submarine targets.

IAI is a pioneer in the field of unmanned systems in the air, ground space and sea domains. The world's first UAV was developed by IAI for the Israel Defense Forces, and during recent decades IAI has become a leader for robotic ground systems, unmanned vessels, loitering munitions and more. BlueWhale has been successfully tested for thousands of diving hours, performing a wide range of missions, including ISR, EW/ESM and MCM.

During the BlueWhale presentation, Michael Ozegowski, Chief Executive Officer of ATLAS ELEKTRONIK, highlighted the excellent partnership between the two companies spanning decades: "The joint development of the BlueWhale ASW demonstrates once again the long-standing and trusting cooperation between German and Israeli naval industry partners. In close collaboration with ELTA, we developed a state-of-the-art system solution enabling high impact ASW operations with minimum infrastructure requirements. The ATLAS ELEKTRONIK towed passive sonar triplet array and advanced transmitter solution is optimized for long-endurance autonomous operations, meeting operational needs and

capabilities in an efficient and cost-effective way."

Eyal Shapira, VP& GM Air Defense & Naval Systems Division, ELTA IAI said: "This new joint development is a result of the close relationship between IAI ELTA and ATLAS, and between Germany and Israel. BlueWhale relies on ELTA's extensive experience in Machine Learning and AI-driven autonomous systems together with the company's advanced payloads, including AESA radars, SIGINT systems and secure, long-range communications systems. Highly-developed, onboard processing ensures that the incoming intelligence data is exploited in a timely and efficient manner."

The ATLAS towed sonar array incorporates the company's one-hundred-and-twenty-year legacy in the design, development, and production of naval systems. Based on the company's proven ACTAS (Active Towed Array Sonar) platform, the Deep-Water Sonar System is purpose-designed for submarine deployment. It utilizes a low-frequency sonar facilitating excellent area coverage while maintaining high sensitivity, at depths previously beyond the reach of conventional sonar systems.

Indian Defence Minister Rajnath Singh & US Secretary of Defence Lloyd Austin hold talks in New Delhi



Defence Minister Rajnath Singh in a Bilateral meeting with the United States Secretary of Defense, Lloyd Austin, in New Delhi. The Chief of Defence Staff, General Anil Chauhan, the Defence Secretary, Giridhar Aramane and Additional Secretary (Defence Production) T Natarajan are also seen.

Defence Minister of India, Rajnath Singh held a bilateral meeting with US Secretary of Defence Mr Lloyd Austin in New Delhi. The two sides discussed a substantial range of bilateral defence cooperation issues, with particular focus on identifying ways to strengthen industrial cooperation.

The two Ministers explored ways of building resilient supply chains. Both sides will identify opportunities for co-development of new technologies and co-production of existing & new systems and facilitate increased collaboration

between defence start-up ecosystems of the two countries. Towards these objectives, they concluded a roadmap for US-India Defence Industrial Cooperation which shall guide the policy direction for the next few years.

Both sides reviewed the robust and multifaceted bilateral defence cooperation activities and agreed to maintain the momentum of engagement. They welcomed the inaugural dialogues held recently focusing on Defence Artificial Intelligence and Defence Space. They also discussed the regional security issues given their shared interest in maintaining

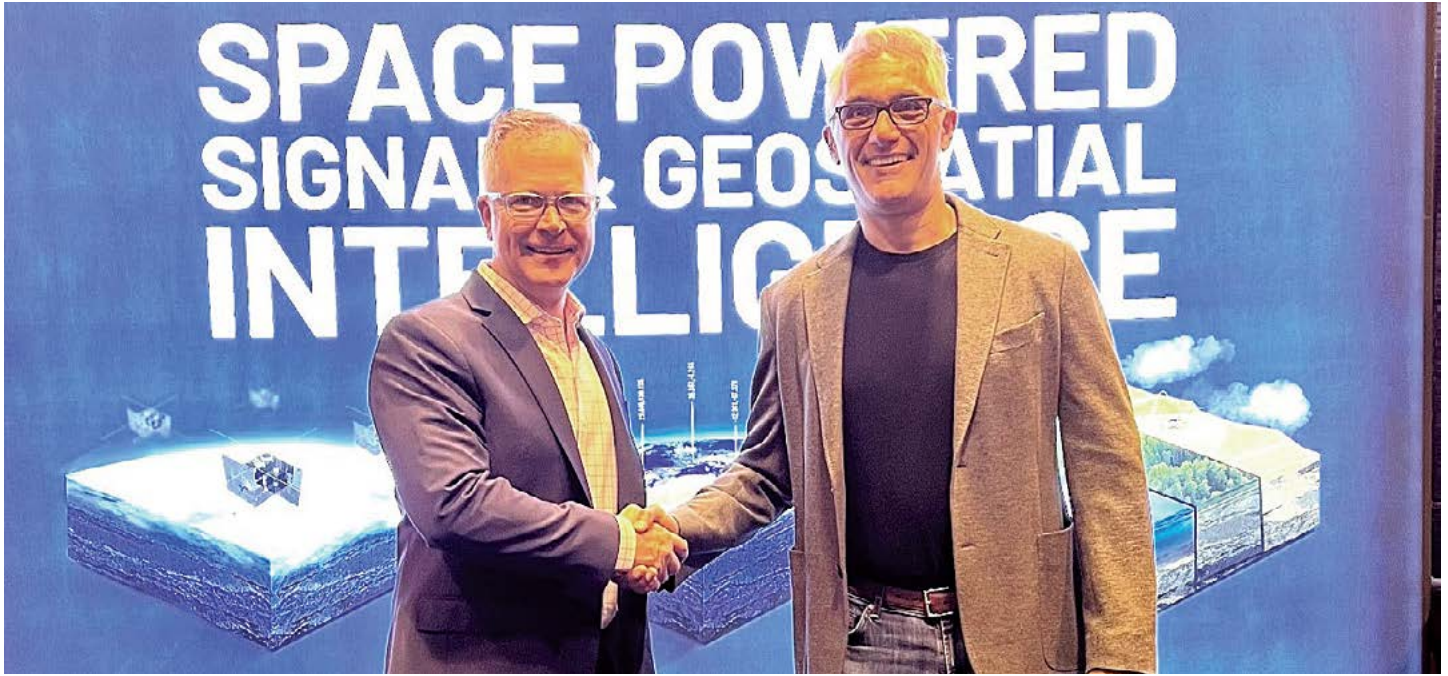
peace and stability in the Indo-Pacific region.

Senior officials from Ministry of Defence, including Chief of Defence Staff General Anil Chauhan, Defence Secretary Giridhar Aramane and Secretary, Department of Defence R&D and Chairman Defence Research and Development Organisation (DRDO) Dr Samir V Kamat, participated in the meeting.

The delegation-level talks were preceded by a Tri-Service Guard of Honour to Secretary Austin. The US Secretary of Defence arrived in New Delhi on June 04, 2023 on a two-day visit.



Kleos Enters into Wide Reaching Partnership with General Atomics



GA-CCRI President: Brian Ralston & Kleos CEO: Alan Khalili at GEOINT Symposium

Kleos Space S.A. a space-powered defence and intelligence technology company, is pleased to announce a strategic partnership with General Atomics Commonwealth Computer Research, Inc (GA-CCRI), a renowned global technology and defense company. This collaboration marks a significant milestone that will deliver benefits to Kleos and General Atomics customers and stakeholders globally.

As part of this partnership, Kleos will integrate GA-CCRI's proven OPTIX platform into the launch of two new cutting-edge, geospatial intelligence industry disruptive products.

The first product, LOCATE X, will empower users with unprecedented RF geospatial situational awareness. Leveraging advanced technologies powered by OPTIX, LOCATE X will enable customers to gain valuable insights into RF activity like never before.

The second product, LOCATE OPTIX, will serve as a powerful visualization tool, allowing users to interrogate Kleos' data and intelligence products. With LOCATE OPTIX, customers will have the ability to create historical views, overlay contextual layers, and extract deeper insights from the wealth

of data provided by Kleos.

General Atomics will leverage its OPTIX platform and RF expertise to develop intelligence outputs tailored to the specific needs of Kleos' customers. This collaborative approach will result in the creation of derived products that provide actionable intelligence to a wide range of industries.

Furthermore, General Atomics will become a Channel Partner and value-added reseller for Kleos' data and intelligence products. General Atomics maintains a carefully curated catalogue of data to provide global ISR and situational awareness. Adding Kleos data to the OPTIX catalog will enable further expansion of modalities of data and will enable a richer situational awareness picture. Customers worldwide will benefit from the unrivalled geospatial intelligence provided by the partnership.

Kleos' Co-Founder and Head of Partnerships, Product and Sales; Andrew Bowyer said; "We are thrilled to enter into this strategic partnership with General Atomics. Their extensive experience in technology and defense, combined with their commitment to delivering excellence, aligns perfectly with Kleos' vision. Through this collaboration, we aim to push the boundaries

of geospatial intelligence, providing our customers with unparalleled situational awareness and actionable insights."

General Atomics' VP of Commercial and International Programs, Joel Morgan expressed their enthusiasm, stating, "Partnering with Kleos is a significant step forward for General Atomics as we continue to expand our portfolio of innovative solutions. By integrating Kleos' data and intelligence products into our offerings, we enhance our ability to provide comprehensive and customized intelligence outputs to our customers. This partnership underscores our commitment to delivering excellence and advancing the field of geospatial intelligence."

The partnership between Kleos and General Atomics signifies a pivotal moment in the geospatial intelligence industry. By combining their respective strengths, both companies will accelerate the development and adoption of cutting-edge solutions, benefiting customers across multiple sectors. This collaboration sets the stage for a new era of geospatial intelligence, where unprecedented situational awareness and actionable insights drive informed decision-making.

INDRA Installs Naval Version of Lanza 3D Radar on an Indian Navy's Frontline Ship



Indra's Lanza 3D radar continues to strengthen itself as one of the most advanced surveillance systems on the market and continues its international expansion. Indra is currently installing its naval version, Lanza-N 3D, on one of the Indian Navy's destroyer ship, beginning the delivery of the 23 radars that it will provide to the Indian Navy over the next decade.

This milestone is part of the contract signed by the company in 2020 with the Indian company TATA Advanced Systems Limited (TASL), within the framework of a technology transfer program. This provides for the delivery by Indra of a total of three complete radars, plus the core elements of its system for another 20 radars, destined for ships, which TASL will complete and integrate locally. To them is added an additional reference radar to support this technology transfer during the additional maintenance period of 12 and a half years.

After designing and producing the first radar at Indra's facilities in Madrid, the system passed the factory acceptance tests (FAT) at CEAR, the Radioelectric Analysis Center of the Institute of Aerospace Technology (INTA) in November, to be subsequently shipped to India, where installation has begun once the ship has become available.

The following two radars are already in production and are expected to pass FAT tests this year.

The Lanza-N radar that is being implemented is based on the one fitted to the ship Juan Carlos I of the Spanish Navy, although the system has been adapted to the regulatory requirements of India, for example, in the environmental field to guarantee its optimum performance even in conditions of high humidity and extreme heat.

In addition, it incorporates the latest technological and operational updates incorporated by Indra to its family of Lanza radars, as well as some improvements, such as greater power for the use of long-range mode or remote monitoring of the pressurization system.

This project confirms the export potential of the Lanza-N radar, a high-tech Spanish solution for surface ships, designed as a long-range, modular, solid-state pulsed tactical radar, with all the equipment associated with the Lanza-N fully integrated for a naval operation. The primary function of radar is the detection of aircraft within the instrumented coverage volume, even in adverse conditions. It also includes the integration of a Secondary Surveillance Radar (IFF/SSR).

All set for the scintillating Paris Air Show!



The 54th edition of the prestigious international event will once again bring together all the players in this global industry and present the latest technological innovations

The latest edition of the Paris Air Show will take place during June 19-25, 2023. This is the 54th edition of the international event and will include unique programmes such as Paris Air Lab and Paris Air Mobility.

The show is organised by the SIAE, a subsidiary of GIFAS, the French Aerospace Industries Association. While the first edition of the show took place in 1909 at Grand Palais, the venue of the upcoming

edition is Le Bourget Parc des Expositions and it will once again bring together all the players in this global industry who will present the latest technological innovations. The first four days of the show will be reserved for trade visitors, followed by three days open to the general public. The mascot of the latest edition is Aleo.

A big attraction

The previous edition of the Paris Air Show

in 2019 had witnessed the participation of 2,453 exhibitors from 49 countries. The event also attracted 316,470 visitors, among whom 139,840 were trade visitors and 176,630 belonged to the general public. Incidentally, the trade visitors belonged to 185 countries.

The previous edition displayed 140 aircraft, while 2,700 accredited journalists from 87 countries covered the functions.

As many as 304 official delegations





from 98 countries and seven International Organisations took part in the 53rd edition. Meanwhile, 150 startups from 21 countries exhibited their capabilities. In that edition, contracts worth 140 billion dollars were signed.

Paris Air Lab

This event at the Paris Air Show charts the path to decarbonized travel. For its third edition, the Paris Air Lab in 2023 will take visitors to the heart of a new revolution in air transport, which is now in the midst of a global transition to decarbonized travel.

In response to international commitments to achieve carbon neutrality by 2050, a vast network of programmes, research projects and technological breakthroughs will be brought to life in an exciting, educational circuit hosted in its own 1000-square metre space in the heart of the show.

Visitors can discover the innovations underway in the worlds of technology, aerial operations and alternative energy sources, and the new face of manufacturing supporting this transformation.

They can also get to know an entire international ecosystem, from

manufacturers to researchers and energy specialists, all working together to find the best technological path to the aircraft of tomorrow, putting an end to fossil fuels, creating new paths across the sky and shaping the future of our industries.

Paris Air Mobility

Another unique event at the 54th edition is the Paris Air Mobility event, which will showcase the latest innovations and emerging technologies in eVTOL (electrical vertical take-off and landing aircraft) and bring together key players in this dynamic community for networking and knowledge exchange. Located in Hall 5, the event will combine an exhibition area, where manufacturers and startups can display their revolutionary products and services, alongside an industry leading conference programme, where senior-level speakers will provide analyses and insights on the current state of the AAM (advanced air mobility) market and how to drive the industry forward.

Careers Plane-2023

In 2023, the 'Avion des Metiers' (Careers Plane) takes off for a one-way trip to

the future. It is an interactive exhibition which will take place in the Concorde Hall. At the Paris Air Show, the Avion des Métiers is the essential meeting point between the expectations of young people and the needs of the French aerospace industry. Visitors can discover the jobs in this promising industry and the training courses that prepare the youth for them. The Avion des Métiers allows youngsters to meet professionals in the sector to discuss their jobs and their daily contribution to the sector's ecological and energy transformation.

The new Hall 3

Among the special features of the latest edition is the opening of a new hall. On January 31, 2023, after seven years of work and 20 months of construction, the SIAE took delivery of the new Hall 3 at Paris-Le Bourget Exhibition Centre. This new building now has an exhibition area of 19,260 square metres compared to 12,040 square metres in the old hall. It is a more welcoming and environmentally sustainable building.

Naval Aviation Outreach program at Kolkata



A Naval Aviation Industry Outreach Programme in collaboration with the Confederation of Indian Industry, Eastern Region, CII(ER) was conducted at Kolkata. The event was organized by the Naval Liaison Cell, Barrackpore under the aegis of HQENC. Vice Admiral Sanjay Mahindru, Deputy Chief of Naval Staff (DCNS), presided over the inaugural session with senior functionaries of tri-services, Coast Guard, DRDO, and CII(ER) sharing

their perspectives on Indigenisation.

The Technical sessions by Indian Naval agencies and Industry partners were reviewed by RAdm Deepak Bansal, ACNS (Air Materiel).

The event aimed at fostering an eco-system conducive to 'Innovate-Integrate-Indigenise' witnessed the active participation of over 100 industry partners operating in and around Kolkata. During the event, the second edition of Manual for

Indigenisation of Air Stores (MINAS) which has undergone a comprehensive review after its initial publication in 2010 was released by the DCNS.

This contemporary edition of the guiding document for Naval Indigenisation agencies also included simplified procedures for fast-tracking indigenization and avenues to effectively utilize extant financial regulation.

Star Air commences Embraer E175 flights in India

Star Air, an all-Embraer jet operator in India, has commenced revenue flights on its first E175 aircraft. The flight took place on 13 May, with Star Air's dual-class E175 flying from Bangalore-Hyderabad-Jamnagar-Bangalore.

Star Air has leased four E175s and these aircraft will boost the airline's existing fleet of five ERJ 145s, providing the airline greater flexibility and efficiency as it grows its network. The airline flies to multiple destinations across the country, most of which are part of the UDAN scheme. Interestingly, Star Air is the first airline to offer business class seats on regional routes.

The E175 is Embraer's best-selling aircraft and one of the most-sold aircraft worldwide. In the United States, the E175 is the market leader in the up to 150-seat jet segment, and the aircraft serves a key role in stimulating the regional aviation sector with outstanding economics and



performance capabilities.

The E175s add to Star Air's existing fleet of ERJ145s.

A global aerospace company headquartered in Brazil, Embraer has businesses in Commercial and Executive aviation, Defense & Security and Agricultural Aviation. The company designs, develops, manufactures and markets aircraft and systems, providing Services & Support to customers after-sales.

Since it was founded in 1969, Embraer has delivered more than 8,000 aircraft. On average, about every 10 seconds an aircraft manufactured by Embraer takes off somewhere in the world, transporting over 145 million passengers a year.

Embraer is the leading manufacturer of commercial jets up to 150 seats and the main exporter of high value-added goods in Brazil. The company maintains industrial units, offices, service and parts distribution centers, among other activities, across the Americas, Africa, Asia and Europe.

India is a resurgent power under PM Modi: Defence Minister Rajnath Singh



“India is not an emerging but a resurgent power which is regaining its place on the global economic map under the leadership of Prime Minister Narendra Modi,” said Defence Minister Rajnath Singh at an event in New Delhi. Until the 17th century, India had a remarkably strong economy, constituting over a quarter of the world’s GDP, but it lost its glory due to a weak military and political slavery.

Rajnath Singh
Indian Defence Minister

The minister asserted that the Government is working on both these fronts to ensure that India regains its old glorious status. He stated that no stone is being left unturned to create a strong, young & tech-savvy Armed Forces on the back of robust defence industry which indigenously manufactures state-of-the-art weapons/equipment, while efforts are also being made to get rid of the colonial mind-set.

“A strong military not only secures the borders, but also protects the culture & economy of a country. The goal is to build a strong, self-reliant and prosperous nation, which caters to its own needs as well as the requirements of friendly countries. This is an era of renaissance. It is time to re-establish India as a global superpower,” Rajnath Singh said.

Citing a report by Morgan Stanley, the minister said that after naming India among the ‘Fragile 5’ economies in 2013, the investment firm recently stated that the country will be the third largest economy by 2027. He termed it as a testament to the growth of the Indian economy in recent years. He was of the view that the phrase ‘emerging power’ can be used for India

in the immediate perspective, but for the long term, he views it as a resurgent power, which is regaining its place on the world economic map.

The minister listed out a number of reforms undertaken by the Government to facilitate the economic growth of the country. These include direct tax reforms, GST and steps to enhance ease of doing business. There has been a revolutionary transformation in all sectors and foreign investors today see India as an attractive destination, he said.

On the transformative changes brought about in the defence sector in the last few years, the Raksha Mantri stated that a number of steps have been taken to achieve complete ‘Aatmanirbharta’ in manufacturing of weapons and technologies. The major decisions include notification of four positive indigenisation lists of 411 items on behalf of the Armed Forces & four other lists of 4,666 items for DPSUs, besides setting up of Defence Industrial Corridors in Uttar Pradesh & Tamil Nadu.

Shedding light on the positive results achieved due to the Government’s efforts, Rajnath Singh stated that a record over Rs one lakh crore defence production and all-time high defence exports of almost Rs 16,000 crore in Financial Year 2022-23 are

proof of the massive growth of the defence sector. He added that the start-up friendly ecosystem created by the Government has led to the creation of over 100 unicorns in the country, with the defence R&D and manufacturing sector witnessing a significant increase in the number of start-ups.

The minister also shared his insights on the Prime Minister’s vision for India to be a developed nation by 2047, which he voiced during his 2022 Independence Day address from the ramparts of Red Fort. The Government is focusing on all sectors, including health, education, road transport, railways and border development to realise the Prime Minister’s vision, he said.

Rajnath Singh spelt out his vision for India@2047, which includes a robust government machinery; help to every person in need; social harmony; equal participation of women and an ecosystem which creates more & more employment opportunities. He also called for further increasing the capacity of the economic infrastructure to ensure a high quality life to the country’s population, while developing the abilities of the youth. He envisioned growth with an efficient market economy, where people have freedom to start any business/job.

Singapore Airshow 2024: Arrangements underway



Conducted every two years, the next edition of the event which attracts leading aerospace companies and budding players in the international aerospace and defence market will take place in February, 2024

Preparations have begun for the next Singapore Airshow, which is scheduled to take place during February 20-25, 2024. The venue of the event is Changi Exhibition Centre, Singapore.

Held every two years, the Airshow attracts leading aerospace companies and budding players eager to make their mark in the international aerospace and defence market.

The programmes at the Airshow include AeroForum

What's Next @ Singapore Airshow

Flying Displays

Static Displays

Trade Programmes

AeroCampus and AeroPerks

AeroForum

A centre for thought leadership and knowledge exchange, Singapore Airshow features a series of forums that facilitates crucial conversations aimed at propelling the industry forward. The two thought-leadership forums that took place at Singapore Airshow 2022 were Aviation CEO Forum and Sustainable Aviation Forum.

In one of the first live, face-to-face events to take place in the Asia-Pacific region in 2022, Experia, the organiser of the Singapore Airshow, and aviation media player





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FlightGlobal, teamed up to hold the Aviation CEO panel, a gathering of leaders to debate the state of the industry.

Sustainable Aviation Forum

Climate change continues to negatively impact our daily lives. Even though aviation has historically been quite successful in leveraging technology to reduce its contributions to climate change, more recently, technological advancements in aircraft/engine design and manufacturing, alternative jet fuels, airport and air traffic management, and maintenance practices have focused more on sustainability.

At the airshow, a panel of aviation experts will take a deep-dive into the challenges and opportunities within sustainable aviation including trial projects, technology innovation, R&D collaborations with the ultimate goal of achieving net-zero emissions.

What's Next

Singapore Airshow will launch its own version of What's Next with a stress on Big Data, Artificial Intelligence, Autonomous Systems and Cyber Security. Beyond pitching to potential investors and accelerators, What's Next serves as a unique platform for

them to interact with industry heavyweights, share ideations and establish new business development leads.

Focus areas include Software; Data Analytics, Cyber Security, Robotics, Artificial Intelligence, Virtual/Augmented Reality, Autonomous Systems, Hardware, Robotics, Autonomous Systems, Composites, Alloys and Additive Manufacturing.

Flying Displays

The teams that participated in Singapore Airshow 2022 flying display were, Indian Air Force with HAL Tejas LCA; Indonesian Air Force Jupiter Aerobatics Team; Republic of Singapore Air Force (RSAF); United States Air Force (USAF) and United States Marine Corps (USMC).

Static Displays

Visitors at Singapore Airshow 2022 received the chance to get up close and personal with a spectacular line-up of commercial aircraft and military jets. They included A330 Neo; A220-300; A350-900; Falcon 8X; Falcon 2000LX; Falcon 6X (mockup); HA-420 Hondajet; Piaggio P-180 Avanti EVO; Embraer 190 -E2; Bell 505; Boeing KC-46 Pegasus; P-8A Poseidon; F-35A Lightning II; RQ-4

Global Hawk; HAL Tejas LCA; Airbus A400M; Airbus A330 MRTT; Boeing AH-64D Apache; Airbus Helicopters H225M; Lockheed Martin F-16D+ Fighting Falcon; Boeing F-15SG Eagle; UAV Elbit Hermes 450 and TAI TF-X (Turkish Fighter - mockup).

Singapore Airshow is Asia's most influential international aerospace and defence exhibition for stakeholders to forge strategic alliances and collaborate for change to shape the future of the global aviation industry.

The biennale event plays an increasingly crucial role for aerospace and defence thought-leaders to convene for strategic conversations that will shape the transformation of the industry. Its highly curated programmes expand and connect exhibitors to new networks.

Singapore Airshow in 2024 will include key participating exhibitors such as Airbus, Changi Airport Group, Lockheed Martin and ST Engineering. This 9th edition will be an in-person event which includes Weekend@Airshow targeted at the public.

For more information, visit www.singaporeairshow.com.

iDEX-DIO signs 250th contract

Innovations for Defence Excellence (iDEX), the flagship initiative of Ministry of Defence, has reached a milestone with the signing of its 250th contract - first under Mission DefSpace - and 100th SPRINT (Navy) contract in New Delhi. The contracts were signed in the presence of Defence Secretary Giridhar Aramane and other senior civil & military officials.

Mission DefSpace contract

The first iDEX contract of Mission DefSpace was exchanged between Additional Secretary (Defence Production) & CEO Defence Innovation Organisation (DIO) T Natarajan and CEO, InspeCity Arindrajit Chowdhary, one of the winners of the challenge 'Micropropulsion system for cubesats'. This challenge is being led by the Defence Space Agency.

Cubesats are a class of smallsats, which are modular; low-cost; easy to manufacture, integrate, and launch; and form a critical component for launch-on-demand capabilities. For imagery/Intelligence Surveillance & Reconnaissance/communication purposes, cubesats need to be precisely aligned, hence there is a requirement of a compact micropropulsion system for precise manoeuvring and orbit correction. InspeCity is developing a gas-based system for this purpose. This technology, once developed, can be integrated with other satellites, including the cubesat swarm being developed under Mission DefSpace.

Recognising the strategic significance of the space domain, Prime Minister Shri Narendra Modi had launched Mission DefSpace with 75 Defence Space Challenges to be addressed by the private sector during DefExpo at Gandhinagar in October 2022. It aims to nurture the Indian Private Space industry through challenges addressing every stage of a space mission – from mission planning to satellite data analytics.

100th SPRINT (Navy) contract

The 100th SPRINT (Navy) contract was exchanged between AS (DP) & CEO-DIO and CEO, Siliconia Technologies Pvt Ltd Sushil Eknath Ghule. Siliconia Technologies Pvt Ltd is the winner of the Challenge which envisaged the development of a prototype that is a lightweight ASIC (Application-Specific Integrated Circuit)



based communication system using software defined antenna for Low Earth Orbit, Medium Earth Orbit and Geostationary satellite communication. The solution by Siliconia can provide multiple independent receiver/transmitter sources that are essential in phased-array radars, typically used in satellite tracking.

Under the 'SPRINT' initiative, a total of 75 Challenge statements for the Indian industry were unveiled by Prime Minister Narendra Modi during the Naval Innovation and Indigenisation Organisation (NIIIO) seminar 'Swavlamban' on July 18, 2022. The initiative aims at inducting at least 75 technologies/products into the Indian Navy by August 2023 as part of 'Azadi ka Amrit Mahotsav'.

The iDEX achieved the milestone of signing its 1st and 50th iDEX SPRINT contracts under DISC-7 in October 2022 and January 2023 respectively and within a few months the 100th SPRINT (Navy) contract was exchanged.

Till date, iDEX has received more than 7,500 applications from individual

innovators, MSMEs and start-ups under various categories of challenges like DISC, Prime and Open Challenge. iDEX has also been able to generate thousands of jobs and attract India's talent back to the country.

The iDEX framework was launched by the Prime Minister in 2018 with the objective to provide the platform of co-creation & co-development in the defence sector. It aims to engage start-ups to contribute to the defence sector and develop defence and aerospace setup in the country. iDEX is being implemented by DIO, established under the Department of Defence Production, MoD.

In his address, the Defence Secretary exuded confidence that the iDEX will help India become the biggest defence innovation ecosystem in the world in the times to come. He also appreciated the continuous efforts and support from all the stakeholders, including the Services, start-ups, partner incubators and the iDEX team in reaching the milestone.

Neste opens the new Singapore facility, establishes aviation fuel supply chain



The EUR 1.6 billion Singapore Expansion project which Neste announced for additional renewable products production capacity in December 2018 has been successfully completed.

The Singapore refinery expansion doubles Neste's production capacity in Singapore and brings the refinery's total capacity to 2.6 million tons annually of which up to one million tons can be sustainable aviation fuel (SAF). This strengthens the company's position as the world's leading SAF producer. In addition to increased production capacity, the enhanced raw material pre-treatment capacity onsite increases Neste's capability to process more challenging waste and residue raw materials.

"We celebrate our Singapore refinery expansion opening with our customers, partners and employees. This marks another important milestone in our renewables growth strategy execution. The completion of the construction of the refinery is a remarkable achievement given the complexity of the project and as it was carried out during a global pandemic. I want to express my sincere and warmest thanks to all our partners and employees who have been part of this project," says Matti Lehmus, President and CEO of Neste.

"Singapore has world-class logistics

connectivity enabling efficient transportation of the renewable raw materials as well as final products globally. Also, its world-class education supports the availability of future talents to be a part of our production and commercial operations, as well as to enhance our R&D in our recently established Innovation Center," continues Lehmus.

Neste has established an integrated SAF supply chain to Singapore Changi Airport

Neste is committed to supporting the aviation industry globally in achieving the goal of net-zero emissions by 2050. Also, Neste is pleased to support Singapore in achieving its ambitious emission reduction targets as part of the Green Plan 2030 and Sustainable Air Hub Blueprint under preparation for completion later in 2023.

"Singapore is a leading aviation hub in the Asia-Pacific region. In addition to being a global hub for Neste's SAF production, we have established an integrated SAF supply chain to Singapore Changi Airport to make our product available to an increasing number of regional and international airlines. The neat SAF is produced at our refinery located in the Tuas area of Singapore, then blended together with conventional fossil jet fuel and certified to meet jet fuel specifications at the blending terminal in Singapore, and

finally delivered to our customers at Changi Airport," says Sami Jauhiainen, acting Executive Vice President for the Renewable Aviation business unit of Neste.

In order to be able to offer blended Neste MY Sustainable Aviation Fuel™ directly to airlines at Singapore Changi Airport, Neste has agreed to acquire a stake and become a minority shareholder in Changi Airport Fuel Hydrant Installation Company Pte Ltd (CAFHI), the fuel storage and infrastructure joint venture in the airport. The transaction is subject to the fulfilment of customary closing conditions.

SAF is widely acknowledged as a key element in achieving the aviation industry's ambitious emission reduction goals. To support its aviation customers across the globe in achieving their climate targets by reducing their emissions with SAF, Neste is also developing a global network of airports where it has the capability to supply SAF directly into aircraft. Singapore's Changi airport extends this network of airports, which includes San Francisco (SFO) and Los Angeles (LAX) in the U.S., Amsterdam (AMS) in the Netherlands, and Helsinki Airport (HEL) in Finland. Neste is also supplying SAF to various fuel marketing companies, broadening its availability outside its own airport network. ■



Crown Group , OSK India Signs agreement for MRO of Indian Navy Warships & Submarines



Crown Group Defence company, OSK India Pvt Ltd (OIPL), one of India's largest independent defence MRO major dealing in Naval Weapon System Repairs/MRO has signed a partnership agreement with a major OEM of electronic and weapon system to carry out activities pertaining to post warranty maintenance and repairs, supply of spares, rendering of technical assistance, participation of Foreign Specialists in various types of repair, training of personnel, upgrade of infrastructure etc.

In a drive to support indigenous MRO for Indian Navy under 'Make in India' the agreement would also consider manufacturing of spares in India, consistent with the IGA dated 04 Sep 2019 between Russian Federation and Republic of India.

Talking about equipping the Indian Navy with indigenous MRO capabilities, Cmde Rakesh Anand (Retd.), Head of Marine Division, Crown Group Defence said "The various range of equipment installed on Indian Navy Warships and

Submarines such as Steering Gear Control System (auto pilot) for surface ship, Safe/Prioritised weapon deployment system, Shipborne and surface target radar, Air and surface three-dimensional radar, Combat Information Control System, Optical landing system for aircraft, Gyro Stabilisation System would be covered by the agreement."

The repair of the complex systems would be undertaken at the weapon repair facility of OIPL at Mumbai and the RF module repair facility at Goa. State of art ATE's are available in both the workshops, where more than twenty-five engineers/technicians are available 24/7.

OSK India has a state-of-the-art electronics repair facility in Mumbai specializing in the repair of electronic modules and weapon systems of international origin. They have recently repaired critical weapon equipment for the Indian Navy and are currently working on the next order.

Speaking on the partnership Cmde Rakesh Anand said "The agreement

would open a new chapter in Repair/MRO of Naval Weapon Systems in the country. The various classes of ships such as Vikramaditya, Vikrant, EKM submarines, Delhi, Talwar, Kolkata, Shivalik would be greatly benefitted by the repair/MRO facility likely to be provisioned as a consequence of the agreement.

The Crown Group with over 40 years of expertise in Maintenance, Repair and Overhaul activities is driving indigenous capability development in the Defence Sector, by partnering with major international OEMs, in keeping with the Government of India's policy of "Aatmanirbhar Bharat Abhiyan"

"Equipping the Indian Navy with indigenous repair capabilities with the latest technology to meet the future challenges is crucial. This tie-up reflects our commitment to making India self-reliant in Naval MRO & Manufacturing." Said Vice Adm Paras Nath (Retd) AVSM, VSM, Group President, Crown Group Defence.

German Defence Minister attends iDEX start-up & innovation showcase at IIT Delhi



German Federal Minister of Defence, Mr Boris Pistorius attending an event of iDEX start-ups at Research & Innovation Park, in IIT Delhi on June 06, 2023. The Additional Secretary (Defence Production) & CEO Defence Innovation Organisation (DIO), T Natarajan is also seen.

Following his bilateral meeting with the India Defence Minister Rajnath Singh, German Federal Minister of Defence Boris Pistorius attended an event of Innovations for Defence Excellence (iDEX) start-ups at Research & Innovation Park, IIT Delhi. Partner Incubator of iDEX, FITT-IIT Delhi co-hosted the event.

The event included a briefing on iDEX followed by showcasing of game-changing technologies by Indian start-ups

on Augmented Reality/Virtual Reality, Energy Systems, Smart Drones and Anti-drone systems, Space Propulsion systems and other allied technologies. Additional Secretary (Defence Production) & CEO Defence Innovation Organisation (DIO) T Natarajan briefed the German Minister of Defence the growth of India's Defence Innovation Ecosystem through the iDEX scheme and opportunities for collaboration in global emerging

technology sectors.

Other issues highlighted include the need to enhance defence-industrial cooperation, technology partnerships, long-term research & development and improving supply chain security. The event also brought into focus the promotion of co-development and co-production in India, including potential areas and projects where Indian and German start-ups can work together. ■

India – Saudi Bilateral Maritime Exercise 'Al Mohed Al Hindi 23'

The sea phase of second edition of bilateral exercise 'Al Mohed Al Hindi 23', between Indian Navy and Royal Saudi Naval Force (RSNF) was held from 23 - 25 May 23 off Al Jubail, Saudi Arabia. INS Tarkash, INS Subhadra and Dornier Maritime Patrol aircraft (MPA) participated in the exercise from the Indian side. The RSNF was represented by HMS Badr and Abdul Aziz, MH 60R helo and UAV.

The three-day exercise at sea witnessed a wide spectrum of maritime operations. The exercise culminated with debrief at sea followed by traditional steam past.

The successful conduct of 'Al Mohed Al Hindi 23' showcased high degree of



professionalism, interoperability and exchanges of best practices between the two navies. The bilateral exercise met

all its objectives and both sides intend to graduate to more advanced level of exercises in the next edition. ■

US Naval Delegation Visits Western Naval Command, Mumbai



An 11-member United States delegation led by Vice Admiral Brad Cooper, Commander United States Naval Forces Central Command, Commander Fifth Fleet and Commander Combined Maritime Forces (CMF) visited the Western Naval Command, Mumbai. The delegation was accompanied by Scott Ticknor, Acting Counsel General/Dy Principal Officer, Consulate of the US at Mumbai and Capt David Wilcox, Resident Naval Attaché, US Embassy, New Delhi.

Vice Admiral Brad Cooper called on Vice Admiral Dinesh K Tripathi, AVSM, NM, Flag Officer Commanding-in-Chief, Western Naval Command. The delegation was given a presentation on roles, responsibilities and activities of Western Naval Command. Vice

Admiral Brad Cooper addressed the Op Commanders and officers of WNC on the broad concept and role of CMF. Focussed discussions explored ways and means to strengthen cooperation between the two navies to enhance regional maritime security.

During the visit, the delegation was given a tour of the latest indigenous warship, INS Chennai and Heritage Museum, Naval Dockyard (Mumbai) wherein the maritime history of India was showcased to the visitors. The delegation also visited Mazagon Dock Shipbuilders Ltd., wherein they were apprised on the indigenous ship-building capability of MDL. In addition, the delegation also visited the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya.

India and US are party to Maritime

Security Dialogue, which is conducted annually and India - US Naval cooperation has grown substantially over the last two decades. The relationship between the two Navies is spread over a wide canvas, which includes annual bilateral exercise 'Malabar', multilateral exercise 'RIMPAC', high level delegation visits, Subject Matter Expert Exchange, and goodwill visits by naval ships.

Both navies are committed towards ensuring maritime security in the Indo-Pacific Region wherein cooperation in the maritime domain is amongst the most enduring and key facets of engagement between the two countries. The current visit by US delegation further strengthens the relationship between the two great democracies.

■

India, France and UAE Maritime Partnership Exercise

The first edition of India, France and UAE Maritime Partnership Exercise commenced on 07 June in the Gulf of Oman. INS Tarkash and French Ship Surcouf both with integral helicopters, French Rafale aircraft and UAE Navy Maritime Patrol Aircraft participated in the exercise.

The exercise witnessed a wide spectrum of naval operations such as Surface Warfare, involving tactical firing and Drills for Missile engagements on surface targets, Helicopter Cross Deck Landing Operations, Advanced Air Defence Exercise and Boarding operations.

The maiden exercise aims to enhance trilateral cooperation between the three navies and pave way for adopting measures towards addressing traditional and non-traditional threats in the maritime environment. The exercise will also enhance collaboration in ensuring safety of mercantile trade and freedom of navigation at high seas in the region.



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Defence Ministers of India & Germany hold talks to enhance bilateral defence cooperation

Defence Minister Rajnath Singh held a bilateral meeting with German Federal Minister of Defence Boris Pistorius in New Delhi. Both Ministers reviewed the ongoing bilateral defence cooperation activities and explored ways to enhance the collaboration, particularly defence industrial partnership.

Rajnath Singh highlighted the opportunities that have opened up in the defence production sector, including the possibilities for German investments in the two Defence Industrial Corridors in Uttar Pradesh & Tamil Nadu. The Indian defence industry could participate in the supply chains of German defence industry and add value to the ecosystem, besides contributing to supply chain resilience.

The minister stressed that India and Germany could build a more symbiotic relationship based on shared goals and



Rajnath Singh invites German investments in UP & Tamil Nadu Defence Corridors

complementarity of strength, namely skilled workforce & competitive costs from India and high technologies & investment from Germany.

India and Germany have a Strategic Partnership since 2000, which is being strengthened through Inter-Governmental Consultations since 2011 at the level of Heads of Government.

Senior officials from Ministry of Defence, including Defence Secretary Giridhar Aramane and Chief of Defence Staff General Anil Chauhan, Additional Secretary (Defence Production) T Natarajan participated in the delegation-level meeting. From the German side, State Secretary from Ministry of Defence Benedikt Zimmer, apart from senior officials and the German Ambassador to India, were present. This is the first visit of a German Defence Minister to India since 2015. ■

Orbit OceanTRx4 WGX Maritime Terminal in Final Stage, to Support Inmarsat's GX and Mil-Ka Services

Orbit Communications Systems Ltd. (TASE: ORBI) - a leading global provider of maritime and airborne SATCOM terminals, tracking ground station solutions, and mission-critical airborne audio management systems - announces that its OceanTRx4 WGX highly reliable maritime terminals are in the final stage of testing to support Inmarsat's Global Xpress (GX) satellites and Mil-Ka as well as Wideband Global SATCOM (WGS) ready. The first terminals are expected to be available by June 2023. Furthermore, upgrade kits for existing deployed systems will also be available for customers who prefer to upgrade their OceanTRx systems to support GX.

OceanTRx4 WGX operates across commercial and military Ka-bands through a 1.15 m (4') antenna, fully integrated with GX compatible modem (SMB 3315), electronics and software. The small-footprint terminals are coupled with high performance and Orbit's industry-



leading reliability, enabling a wide range of communication opportunities for a wide range of navy vessels.

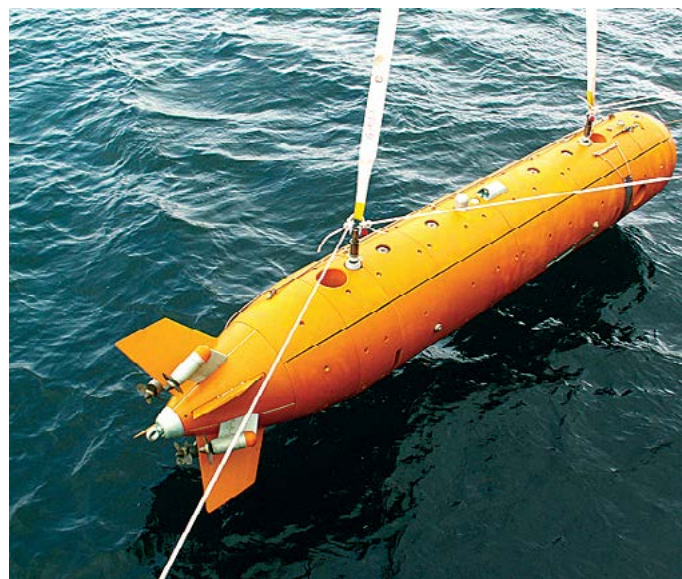
Built to fulfill the "anytime, anywhere" connectivity needs of the military and governmental markets, OceanTRx4 WGX provides outstanding RF and

tracking performance under the harshest environmental conditions.

The fast and easily installed system also supports connectivity over GEO and HEO and is CAT 1 and CAT 4 compliant.

Dany Eshchar, CEO of Orbit Communications Systems said, "We are proud of the continues cooperation with Inmarsat which is followed by receiving full type approval to operate the MPT46 WGX (GX46) and MPT30 WGX (GX30) airborne Ka-band multi-purpose terminals for use over Inmarsat's Global Xpress (GX) network for commercial and military Ka-band (Mil Ka), as well. Inmarsat has been a major driving force behind technological innovation in mobile satellite communications and its GX has been the gold standard for reliable communications across land, sea and air domains for assured mobile connectivity when and where needed. The OceanTRx family of maritime terminals is a game-changer and installed by dozens of navies worldwide". ■

Rosoboronexport to exhibit Klavesin-1RE underwater drone at Maritime Defense Show in Saint Petersburg



Rosoboronexport JSC (part of Rostec State Corporation) will be exhibiting Klavesin-1RE, its cutting-edge autonomous unmanned underwater vehicle (UUV), during this year's International Maritime Defense Show in St. Petersburg during 21-25 June 2023. A robotic vehicle of this kind will be in demand both in the domestic market and abroad.

"Rosoboronexport is closely watching trends in the global arms market," said Alexander Mikheev, Director General of Rosoboronexport. "The main focus now is on unmanned military equipment, robotic systems. Unmanned vehicles and systems are expected to be used in all environments – on land, in the air, on and under the water. Among those advanced high-tech systems developed by the Russian defense industry is Klavesin-1RE (literally: "Harpichord"), the latest autonomous UUV. This is an entirely indigenous Russian development, which has a number of unique characteristics, enabling it to occupy top positions in its segment. This product will be in demand both in this country and among international customers. We will be exhibiting the underwater drone to our international partners shortly at the forthcoming International Maritime Defense Show in St. Petersburg."

The Klavesin-1RE is designed to perform surveillance and search operations, inspect bottom objects at depths ranging



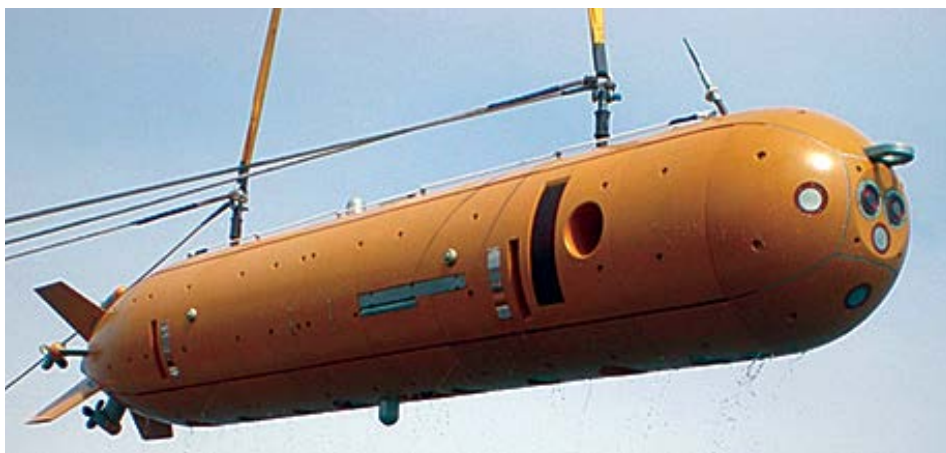
ROSOBORONEXPORT

from 5 to 6000 m when operating in autonomous mode and also in correction mode via a hydroacoustic communication channel from the carrier vessel.

The UUV makes it possible to conduct bottom topography survey using a sonar and identify objects worthy of detailed examination on board the carrier vessel. It is capable of inspecting underwater objects in detail using a sonar, TV and electromagnetic sensors, as well as of automatically identifying and tracking extended objects using TV and electromagnetic locators. In addition, the drone can perform acoustic profiling of the seabed and measure environmental parameters across the entire range of operational depths and motion speeds.

The UUV system can be operated in any possible hydrological conditions, in Sea State 3 and at water temperatures from -4°C to +35°C. Launch and recovery operations involving the UUV can be carried out at a wind velocity of up to 15 m/s, and the system can be stored and transported at ambient temperatures from -50°C to +70°C.

"With the technical specifications it has, the Klavesin-1RE unmanned underwater vehicle can be operated both in a hot tropical climate and in Arctic regions," added Alexander Mikheev. "Rosoboronexport is ready to consider various delivery options for the Klavesin-1RE UUV as a final product, as well as joint work on the drone through industrial cooperation in the interests of the naval forces of our partners."



SKS Sign Services Agreement with Embraer for Fleet Support of E195-E2

Embraer has signed a long-term services agreement with SKS to support the airline's 10 E195-E2 fleet. The contract provides access to the Pool Program, which includes component exchanges and repair services for more than 300 repairable parts to support SKS Airways' Embraer aircraft, plus eSolutions to enhance fleet monitoring and preventive maintenance.

"The E2 delivers the best environmental efficiency and operating performance and the impressive data from our existing E-Jet customers prove it," said Johann Bordais, President & CEO, Embraer Services & Support. "We are very pleased to have SKS join the Pool Program which will deliver great value for their operations."

SKS Airways' operations will benefit from the AHEAD (Aircraft Health Analysis and Diagnosis) which comprises early detection capabilities for critical systems, reducing technical interruptions and avoiding flight cancellations; the eSight, with real-time fleet performance monitoring; and the ePerf, a tablet application for pilots to generate runway performance data offline from the cockpit in any phase of flight.



Equipped with state-of-the-art features, the E195-E2 is the latest commercial aircraft in the aerospace industry to enter into service and is part of the E-Jets E2 family.

The E-Jets E2 family of aircraft, including the E195-E2 has the longest maintenance intervals in the single-aisle jet category – with 10,000 flight hours for basic checks and no calendar limit for typical E-Jet operations. This enables the aircraft to be operated with minimal downtime.

The Embraer Pool Program is designed to allow airlines to minimize their

upfront investment in high-value repairable inventories and resources, while taking advantage of Embraer's technical expertise along with its vast component repair service provider network. The results are significant savings on repair and inventory carrying costs, reduction in required warehousing space, and the virtual elimination of the need for resources required for repair management, while ultimately providing guaranteed performance levels. Currently, the Pool Program supports more than 50 airlines worldwide.



The Additional Secretary (Defence Production), T Natarajan with the Malaysian Minister of Defence Dato Seri Mohamad Hasan at the 16th Langkawi International Maritime and Aerospace Exhibition (LIMA 23) at Langkawi, in Malaysia.

Schiebel CAMCOPTER® S-100 monitors Ship emission from ESMA in the North Sea

Schiebel, under contract to the European Maritime Safety Agency (EMSA), is providing ship emission monitoring for the German Federal Police and Federal Maritime and Hydrographic Agency using the proven CAMCOPTER® S-100 Unmanned Air System (UAS).

Embarked on board the patrol vessel "Bamberg", the S-100 is being employed, day and night, to monitor commercial ship emissions within the German Exclusive Economic Zone (EEZ) in the North Sea. In addition, the UAS will support a variety of other maritime surveillance tasks, such as vessel traffic monitoring, maritime law enforcement patrols in German territorial waters, environmental protection and when called upon, supporting Search and Rescue (SAR) missions.

In its primary task of measuring ships' sulphur emissions in the busy shipping lanes, the S-100 is able to check compliance with the EU rules governing



the sulphur content of marine fuels, in real time. Measurements are transmitted whilst airborne through to the EMSA RPAS Data Centre and then on to the relevant authorities.

Hans Georg Schiebel, Chairman of the Schiebel Group, said: "By measuring the sulphur emissions and gathering

data of ships that do not adhere to the International Maritime Organisation's (IMO) environmental regulations, we are playing a vital role in helping to ensure the sustainability of our ecosystem. We are proud that the S-100 UAS is proving to be a valuable asset in this endeavour."

Saab receives order for Sabertooth



Saab has received an order for the autonomous underwater vehicle Sabertooth from the marine geophysical company PXGEO. The order value is SEK 620 million and deliveries will take place 2023-2025.

The order includes more than 20 Sabertooth vehicles, which makes this the largest Sabertooth order to date. These will form part of PXGEO's MantaRay solution for offshore seismic data acquisition and will be used for deployment and recovery of equipment during ocean bottom surveys.

"Together with PXGEO, we are taking the step to make offshore seismic data acquisition fully autonomous. This is a great achievement, made possible by our combined expertise," says Görgen Johansson, head of Saab's business area Dynamics.

Saab's Sabertooth is a powerful and versatile underwater vehicle. With capability to perform operations to depths of up to 3,000 metres, it is ideal for seabed investigations.

"We are excited to bring the efficiency and reliability of the autonomous

Sabertooth platform to the offshore seismic industry. The combined efforts between PXGEO's engineering team and Saab in the development of MantaRay will revolutionize our industry and finally unlock the full potential of ocean bottom node seismic in line with PXGEO's commitment to United Nations' Sustainable Development Goals," says Tony Bowman, CEO of PXGEO. PXGEO is an innovative marine geophysical service provider with headquarters in Dubai, United Arab Emirates.

AEPL: Flying high in components, subsystems sector



AEPL has successfully created and supplied mission-critical products for various fighter aircraft, rotary-winged aircraft and UAVs over the last three decades. In addition, AEPL holds the esteemed position of being a DRDO Qualified Manufacturing Partner for several critical missile subsystems. As part of its diversification efforts, the firm is now actively venturing into the autonomous Unmanned Underwater Systems domain

R. Sundaram
CEO, AEROSPACE ENGINEERS



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Aerospace Engineers Pvt Ltd (AEPL) is a technology-driven company that specializes in the design, development, and manufacturing of components and sub-systems within the realms of Elastomers, Composites, Metallic and Electro Mechanical products.

With over 30 years of experience in the industry, AEPL has successfully created and supplied mission-critical products such as Canopy Seals, Rotary Mast Seals, Actuators, Fuel/Oil handling Valves, Pumps & High-Pressure Hoses, Mask Hose Assembly and Rubber Fuel Tanks for various

fighter aircraft, rotary-winged aircraft and UAVs. These products have been developed indigenously as well as manufactured along with HAL and include aircraft models such as HAWK, Su-30-MKI, MiG and LCA, among others.

In addition, AEPL holds the esteemed position of being a DRDO Qualified Manufacturing Partner for several critical missile subsystems, including AKASH (Variants), BrahMos LRSAM, as well as classified underwater weapon systems.

Commitment to quality

AEPL takes pride in its commitment to

quality and holds certifications such as AS9100 RevD (including ISO 9001). The company has also received recognition as a ZED Gold Rating company and is CEMILAC certified for design and special processes. AEPL adheres to various international standards and certifications such as ISO 14001, ISO 45001, CE Marking, DGAQA, NADCAP, NABL, DGCA certification for Aerospace Hose Assemblies (CAR21-ITSOA-C140 under Subpart O), and Aircraft Seals (CAR21-ITSO-C150a) for use in Civil Aircraft/Helicopters.

AEPL possesses advanced development capabilities and has successfully





developed over 122 types of Rubber Compounds that meet the stringent airworthiness and international specifications set by CEMILAC.

Strategic partnerships

AEPL has formed strategic partnerships to expand its reach and impact. The company has signed a long-term contract with the 'Egyptian Armament Authority' for the supply of aerospace components. Furthermore, AEPL has secured a significant contract from global aerospace firm Honeywell to manufacture and supply critical aviation components and parts. The company's manufacturing expertise is accredited with NADCAP Fluid Distribution Systems (QML) for fittings and other machined components.

Rapid indigenization

One of AEPL's core strengths lies in its speed of development. With an impressive track record, the company has developed over 15,000 parts through indigenization, out of which 12,000 are non-metallic. Demonstrating its adaptability and agility, AEPL has also made significant contributions to the fight against COVID-19 by developing approximately 75 parts and supplying 30,000 sets for ventilators and compressors within a remarkable 45-day timeframe.

To further expand its capabilities, AEPL has established Unit II in Hosur,

dedicated to the integration of aviation-related assemblies and sub-assemblies. This unit boasts a refined and state-of-the-art Research and Development Centre equipped with world-class testing facilities to meet international standards. Recently, AEPL has made enhancements to its manufacturing facility to support existing business operations and cater to new requirements in sheet metal, tooling, precision mechanical assemblies, and composites.

AEPL has also embarked on an exciting journey with the acquisition of the manufacturing facility of TAAL as Unit III in Hosur. This facility includes a machine shop, sheet metal processing, composite shop, heat treatment, special process & painting process, along with NADCAP certification and CMM for inspection. Notably, Unit III manufactures major components for space applications, including Strap-on base shrouds, Strap-on nose cones, Inter-tank structures and Reaction Control units and fabrication of AAAU to cater to the requirement of the radar electronics in Embraer Aircraft. In addition, SATCOM Radome is also fabricated to protect the antenna / radar system surfaces. AEPL's special process facilities in Salem and Hosur are accredited with NADCAP certification for processes such as Aluminium Anodizing, Chromic Anodizing, Hard Anodizing, SS Passivation, Titanium

Anodizing and Paint Booth.

Diversification

AEPL strongly believes in diversification and is actively venturing into the autonomous Unmanned Underwater Systems domain. These systems can be programmed to perform various tasks such as surveillance and inspections. Leveraging the latest advancements in Artificial Intelligence and Machine Learning, AEPL aims to create smart, modular and scalable deployments for the Indian Defence Forces. Drawing from its expertise in structural part manufacturing, composite parts and actuation systems, AEPL is taking proactive steps in the design, development, and manufacturing of sub-assemblies for UAVs.

Prestigious customers

AEPL has partnered with prestigious customers both in India and abroad. In India, its valued customers include HAL, BDL, BrahMos, ISRO, DRDO and BEL, among others. Internationally, AEPL has built strong relationships with esteemed companies like Boeing & Airbus, Honeywell, Eaton, Apollo Aerospace, Pratt & Whitney, Collins Aerospace and Continental Aerospace Technologies US.



MiG-29K Makes Maiden Night Landing on INS Vikrant



In yet another historic milestone towards the full operationalization of Indian Navy's first Indigenous Aircraft Carrier INS Vikrant, the navy carried out the maiden night landing by a MiG-29K fighter aircraft on the carrier on May 24. Since December 13, 2022 the carrier has been undergoing Air Certification and Flight Integration Trials in the Arabian Sea with Rotary Wing and Fixed Wing aircraft for achieving 'Combat ready' state at the earliest.

As part of the trials, maiden day landing of MiG-29K and the indigenous Light Combat Aircraft (Navy) was achieved earlier on February 6. Since then, day and night landing trials of all helicopters in the naval inventory have been progressing. Completing the challenging night landing, within three months of maiden day landing demonstrates the resolve, skill and professionalism of the Indian Navy, Vikrant's crew and naval pilots. It underlines that the carrier will soon be able to undertake aircraft operations at night time also.

INS Vikrant, the first Indigenous Aircraft Carrier and the most complex warship ever built in the country by M/s Cochin Shipyard Ltd, has undergone extensive Sea trials since her maiden sailing on August 4, 2021. The ship has been designed in-house by Indian Navy's Warship Design Bureau. Commissioned into the Indian Navy on September 2, 2022 in the presence of the Narendra Modi, Prime Minister of India, the carrier is a big boost to the Atmanirbhar Bharat vision of the Government of India.

Admiral R Hari Kumar, Chief of the Naval Staff has earlier said that the successful landing and take-off of the indigenous LCA Navy on India's first Indigenous Aircraft Carrier is a momentous step forward towards the realisation of our collective vision of Atmanirbhar Bharat. "The maiden landing of the Mig29K also heralds the integration of the fighter aircraft with INS Vikrant. Congratulations to all those who made it happen," he said.

The landings of LCA (Navy) and MiG-29K onboard INS Vikrant is a significant achievement as it marks the successful integration of the aircraft with the indigenous carrier as well as further enhances the combat readiness of the Navy.

German Defence Minister visits Western Naval Command



A German delegation led by Boris Pistorius, Minister of Defence of Federal Republic of Germany visited Headquarters, Western Naval Command, Mumbai. The Minister was accompanied by Benedikt Zimmer (State Secretary, MoD Germany), Dr. Jasper Wieck (Director-General for Security and Defence Policy, MoD Germany), Dr. Philipp Ackermann (German Ambassador to India) and other delegation members.

The Minister interacted with Vice Admiral Dinesh K Tripathi, Flag Officer Commanding-in-Chief, Western Naval Command. The visiting delegation was given a presentation on roles, responsibilities and activities of

Western Naval Command.

During the visit, the Minister was given a tour of the latest indigenous warship, INS Mormugao wherein the minister interacted with Indian Navy personnel, including women officers from Indian Navy sailing team. Boris Pistorius was also given a tour of the Mumbai Harbour.

After interaction at HQWNC, the delegation visited Mazagon Dock Shipbuilders Ltd., wherein they were apprised of the indigenous ship building capability of MDL. The minister also interacted with Admiral R Hari Kumar, Chief of Naval Staff, at a reception.

Consequent to India and Germany signing an agreement on Bilateral Defence

Cooperation in 2006, there has been significant enhancement in military interactions. Cooperation in the maritime domain is the most enduring and key facet of engagement between India and Germany, which inter alia encompasses training and reciprocal bilateral visits by naval ships and delegations.

Navies of both the countries share converging views on maritime areas of concern, anti-piracy, humanitarian assistance and disaster relief. The current visit by German Defence Minister would further strengthen the relationship between the two countries.

■

'Agni Prime' ballistic missile successfully flight-tested

New Generation Ballistic Missile 'Agni Prime' was successfully flight-tested by Defence Research and Development Organisation (DRDO) from Dr APJ Abdul Kalam Island off the coast of Odisha. During the flight test, all objectives were successfully demonstrated.

This was the first pre-induction night launch conducted by the users after three successful developmental trials of the missile, validating the accuracy and reliability of the system. Range Instrumentation like Radar, Telemetry and Electro Optical Tracking Systems were deployed at different locations, including two down-range ships, at the terminal point to capture flight data covering the entire



trajectory of the vehicle.

Senior officials from DRDO and Strategic Forces Command witnessed the successful flight-test, which has paved the way for induction of the system into the Armed Forces.

Defence Minister Rajnath Singh has congratulated DRDO and the Armed Forces for the success as well as the copy-book performance of the New Generation Ballistic Missile Agni Prime

Secretary Department of Defence R&D & Chairman DRDO Dr Samir V Kamat appreciated the efforts put in by the teams of DRDO laboratories and the users involved in the test launch.

■

Historic Showing of "Team USA" at Paris Air Show



300-plus U.S. companies exhibiting in the USA Partnership Pavilion, a third of which are new-to-show, in efforts to grow international business relationships.

Following a four-year hiatus, U.S. industry has returned to the Paris Air Show with historic numbers, relaying an important message to the global aerospace community – America is “open for business.”

The U.S. exhibitors, distinguished guests, and visitors will gather on the opening day of the Paris Airshow, in Hall 3 for remarks and a ceremonial ribbon cutting to officially open the USA Partnership Pavilion, joined by the Denise Campbell Bauer, Ambassador of the United States of America to France.

Over 300 U.S. companies, coined “Team USA,” are exhibiting within the USA Partnership Pavilion at Le Bourget, covering at total of 6,500 square meters in the newly renovated exhibition hall. The increased American presence at the show this year demonstrates the country’s overall commitment to increased trade, economic growth, prosperity, and global security.

“Team USA” represents a staggering 36 states, including 17 state pavilions featuring state-based co-exhibitors within the larger U.S. space. Among these co-exhibitors are over 200 small-to medium-sized enterprises (SMEs) and 16 start-up companies, respectively



residing in the newly dedicated SME Zone and Start-Me-Up Zone under the U.S. umbrella. 90 Pavilion exhibitors are new to market, 110 are new to the show, and all are looking to share their innovations and grow exports by expanding overseas and/or recruiting international partners to establish or participate in U.S.-based operations.

The USA Partnership Pavilion, organized by Kallman Worldwide in coordination with the U.S. Department of Commerce, Defence, State, and Transportation, forms the center piece of the American national presence at the show. This year marks the 28th year that Kallman has assembled the American contingent at the Paris Air Show, and the company’s 60th year advancing global trade.

In response to this incredible display of national effort, Tom Kallman, President and CEO of Kallman Worldwide, stated

“National pavilions are a patriotic expression of collective industry pride, presented in the spirit of global partnership,” said Kallman. “The USA Partnership Pavilion at the Paris Air Show is more than a week-long home away from home for our exhibitors. It’s a statement of America’s dedicated role in the past, present, and future of the aerospace and defence industry.”

When the trade days come to a close, the Pavilion will transform into “Spaceport USA,” a space-themed, interactive showcase of immersive activities, engineering innovations, and technology demonstrations to engage and educate visitors of all ages. This extra effort to encourage inspire future generations to pursue careers in aviation and aerospace comes at a critical time for the industry with workforce shortages on the rise.



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VPORTS embarks certification process for Advanced Air Mobility Integrator Centre in Dubai



VPorts, the world leader in the design, construction and operation of advanced air mobility (AAM) infrastructure, has initiated the certification

process for its vertiports as part of the world's first AAM integrator centre at the Mohammed bin Rashid Aerospace Hub (MBRAH) in Dubai South. Construction of the vertiports will start in 2024.

"We are extremely proud to embark on the certification process for our vertiports in Dubai," said Dr Fethi Chebil, CEO and Founder of VPorts. "We are making history today as we are the first infrastructure company in the world to initiate a vertiport certification process. With this milestone undertaking, Dubai has confirmed its leadership in the AAM sector. By adhering to regulations of the UAE General Civil Aviation Authority (GCAA), we are taking a proactive



approach to ensure all our vertiports meet and exceed industry standards, providing a secure and efficient environment for the operation of electric vertical take-off and landing aircraft."

The certification process, developed by the GCAA, aligns with regulation CAR IX-HVD Part III, which outlines the requirements and guidelines for the certification and operation of onshore vertiports within the UAE. The process will start with the design approval phase; VPorts plans to obtain design approval for the world centre within six months – a

key step in the construction phase. The certification of the Ras Al Khaimah (RAK) vertiport will follow shortly.

In his comments, Tariq Bin Ghalaita, General Aviation Director at Mohammed Bin Rashid Aerospace Hub, said: "We are pleased to see VPorts engaging in the certification process of its vertiports as part of the world integrator centre. This certification process signifies a substantial step in our pursuit to cement Dubai's status as a global powerhouse of aviation and innovation.."

IAI and Elcom Systems signed MOU

Israel Aerospace Industries and Elcom Systems Pvt signed an MoU to work collaboratively on MRO and upgrades of unmanned aerial vehicles. The MoU is a further commitment of IAI's support for the Indian government's 'Aatmanirbhar Bharat' – Make in India vision.

The MoU was signed in the presence of Shiv Vikram Khemka, Vice Chairman, Elcom/SUN Group, V.V. Sivakumar, Executive Director, SUN Group, Director, Elcom; Maj. Gen. Naresh C. Badhani (Retd.), Director-MRO Services, Elcom Systems; Amir Peretz, Chairman of IAI; and Boaz Levi, President & CEO of IAI.

This follows previous agreements IAI has made with Elcom Systems to work together on MRO of the Heron UAV and for the maintenance of advanced Heron MKII UAVs that IAI provided to the military forces in India.



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RAFAEL Achieved Major Milestone in FOC of C- Dome on INF Sa'ar 6-class Corvettes



RAFAEL alongside the Israel Missile Defense Organization (IMDO), in collaboration with the Israeli Navy and Rafael Advanced Defense Systems Ltd., announces the successful completion of a series of comprehensive tests for the naval version of the Iron Dome system, known as "C-Dome." These tests mark a significant step towards achieving the final operational capability of the C-Dome system on the Israeli Navy's Sa'ar 6-class corvettes.

Throughout the rigorous testing process, the C-Dome system, installed on the Sa'ar 6 "Magen" corvettes, demonstrated its exceptional capability to intercept and neutralize advanced threats that pose a danger to Israel's strategic assets and infrastructure within its exclusive economic zone. The operational personnel of the Israeli Navy flawlessly operated the systems during the tests, showcasing the readiness of the "Magen" corvettes.

The comprehensive test series included simulations of both existing and future threats that the "Magen" ships may encounter in times of conflict, including rockets, cruise missiles, and unmanned aerial vehicles (UAVs). These tests successfully integrated shipboard systems with Israel's multi-tier defense array, augmenting the operational effectiveness of the air and missile defense system both at sea and on land. The outstanding success of these tests represents a significant milestone in the development

of the multi-tier defense array, bolstering Israel's defense capabilities against diverse threats in various combat scenarios.

The integration of the C-Dome system reinforces the defensive capabilities of the Sa'ar 6 "Magen" corvettes, enhancing their capacity to safeguard Israel's assets and economic interests within the exclusive economic zone. As an additional layer of Israel's multi-tier air and missile defense array, the C-Dome system complements the existing operational defense tiers, namely Iron Dome, David's Sling, Arrow 2, and Arrow 3. The Israel Missile Defense Organization, a division of the Directorate for Defense Research and Development (DDR&D), oversees the development of these defense systems, with Rafael Advanced Defense Systems serving as the prime contractor and developer of the Iron Dome system. Collaborating with esteemed subcontractors such as Israel Aerospace Industries' Elta Systems and mPrest, RAFAEL ensures the integration of cutting-edge radar and command-and-control systems.

Minister of Defense, Yoav Gallant: "The C-Dome system constitutes a significant leap forward in our defense capabilities, and ensures the Israeli defense establishment's superiority and operational capabilities in the face of growing threats in the maritime arena."

Executive Vice President and Head of the Land and Naval Systems Directorate

at RAFAEL, Dr. Ran Gozali: "The success of the latest live trials of the C-DOME missile defense system constitutes another technological breakthrough led by RAFAEL. We are proud of our role in supporting the development of the Israeli Navy's operational capabilities and of the Israel Defense Forces in general. "

Head of the DDR&D, Brig. Gen. (res.) Dr. Daniel Gold: "These successful tests are one of the many efforts we are carrying out to improve our air and missile defense systems' preparedness for future threats and improve system performance in the face of existing threats."

Director of DDR&D's IMDO, Moshe Patel, added: "The Israeli defense establishment is constantly upgrading the Iron Dome's capabilities on land and at sea to increase its effectiveness. During this current campaign, we successfully tested the Naval Iron Dome's new capabilities aboard the Sa'ar 6 corvette together with additional systems in Israel's multi-tier air and missile defense array, including connectivity between systems on-board with those on land, and a new radar developed to protect Israel's exclusive economic zone."

Head of Material, Technology and Logistics Command, Rear Admiral Ariel Shir: "The current experiment is part of the road map for the development and improvement of the defense capabilities of the defense ships, while providing a response and adaptation to the evolving needs in the arena." ■

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Satair Becomes Exclusive Distributor of Airbus Cabin Electronics productline

Satair, an Airbus Services company, has signed an agreement with Airbus Operations GmbH - Cabin Electronics making Satair the exclusive distributor of Airbus cabin electronics products including Flight Assistant Panels and Passenger Service Units, which are part of the Cabin Intercommunication Data System (CIDS), the key system for the aircraft cabin that enables management of cabin lighting, passenger service system functions, EVAC (evacuation) signals, cabin interphone and cabin system monitoring.

The new agreement expands an existing business relation with Airbus Operations GmbH, CAGE C9072, Buxtehude in Germany, which generates electronic cabin communication systems and covers the scope of development, manufacturing, marketing, sales, customer services, spares and repair service for systems, equipment, electronic hardware and software.

This agreement strengthens the Airbus route to market and streamlines the value proposition to the benefit of customers by utilizing Satair's long-standing exclusive distribution expertise. Furthermore, Satair has a long and proven record of servicing airlines and MROs for all



their material management and service needs and including the Airbus Cabin Electronics portfolio will improve the availability and delivery of spare parts to its global customer base, while enabling Airbus Operations GmbH to focus on their core strengths of innovating and enhancing their product lines.

Thomas Lagaillarde, Head of Product Management, Satair, says "Airbus is committed to prioritising the comfort and safety of passengers and crew aboard its commercial aircraft. Satair is proud to undertake the exclusive distribution of the Airbus cabin electronics product

line, providing operators worldwide with access to enhancing the in-flight experience for cabin crew and passengers."

Moritz Hesse, Head of Spares Services, Cabin Electronics, Airbus, says "Partnering with Satair as our exclusive distributor of cabin electronics products ensures enhanced spare parts access, allowing us to prioritise the further business development of our repair and modification services to advance the comfort and safety of commercial aircraft".

■

ACTCM Barge delivered to Indian Navy

First Barge of the series LSAM 15 (Yard 125) has been delivered to Indian Navy. Contract for construction of 11 x Ammunition Cum Torpedo Cum Missile (ACTCM) Barge was concluded with M/s Suryadipta Projects Pvt Ltd, Thane, a MSME, in consonance with "Aatmanirbhar Bharat" initiatives of the Government of India. The Barge has been built under the classification rules of Indian Register of Shipping (IRS) with a service life of 30 years. With all major/auxiliary equipment sourced from indigenous manufacturers, the Barge is proud flag bearer of "Make in India" initiative of Ministry of Defence.

Induction of ACTCM Barges will provide



impetus to Operational commitments of IN by facilitating Transportation, Embarkation and Disembarkation of

articles/ ammunition to IN Ships both alongside jetties and at outer harbours.

■



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Indian Army Signs Contract for Tactical LAN Radio through iDEX

The Indian Army has signed the second procurement contract through Innovations for Defence Excellence (iDEX) for the procurement of Tactical LAN Radio. The contract with M/s Astrome Tech Pvt Ltd, Bangalore for procurement of indigenously developed 'was signed in presence of Lt Gen MV Suchindra Kumar, the Vice Chief of Army Staff. With this initiative, the Indian Army has taken a lead by signing two contracts under iDEX till date.

Tactical LAN solution is being developed indigenously for creating secure tactical LAN in remote and difficult terrain. 'Tactical LAN Radio' is a state-of-the-art high bandwidth backhaul wireless radio equipment for provisioning of reliable and failsafe communication. The solution offers an enhanced range of communication and embedded frequency hopping mechanism to preclude chances of interception and long-range point-to-multipoint high-bandwidth communication. The system also incorporates the enhanced safety features and can operate continuously for



48 hours on a single set basis without any breakdown.

iDEX was launched by Prime Minister Modi during Defence Expo India 2018. The aim of iDEX is to create an eco-system to foster innovations and encourage technological development in Defence and Aerospace by engaging R&D institutes, academia, industries including MSMEs, start-ups, individual innovators and provide them grants/ funding and other support to carry out R&D which has good potential for future adoption by Indian Defence and Aerospace Organisation. Over the past four years, iDEX under 'Defence Innovation Organisation' has emerged as a front runner in establishing right kind of contact with the start-ups and innovators

and has gained substantial traction in the defence start-up community.

At present a total of 42 projects of the Indian Army are part of Defence India Start-up Challenge (DISC), Open Challenges and iDEX PRIME scheme which involves handholding of 41 start-ups for development of latest state of the art solutions for challenges posed by the Indian Army. For each challenge a dedicated nodal officer and a category 'A' establishment as 'Centre of Excellence' from the Indian Army has been nominated for handholding and continuous support for progress of the projects. Balance 'Acceptance of Necessity' accorded iDEX projects of the Indian Army are also under finalisation and are likely to fructify into contracts shortly. ■

CNS meets Royal Saudi Naval Force cadets at Southern Naval Command



Admiral R Hari Kumar, Chief of the Naval Staff of the Indian Navy interacted with the cadets of King Fahd Naval Academy, Saudi Arabia, undergoing sea training at Southern Naval Command, Kochi. 55 cadets of the Royal Saudi Naval Force (RSNF) along with five Directing Staff are attached with the First Training Squadron ships, INS Tir and INS Sujata as part of afloat training with the Indian Navy. The CNS was apprised of the ongoing harbour and afloat training activities including familiarisation sea sorties. He was also

briefed on the progress made by the trainees within the training period.

As part of the training curriculum, simulator training was undertaken for the cadets prior embarking for the sea training phase. The cadets have completed 10 days at sea onboard the Indian Naval Ships. During the sea sorties, they were exposed to rigorous training on practical aspects of navigation and seamanship with emphasis on navigation in pilotage waters, anchoring, coastal navigation, replenishment at sea, sea boats, firefighting and emergency drills. A

two-day harbour training on sail training ship INS Sudarshini is also planned to familiarise them with the rigours of life onboard a sail ship.

The cadets shared their training experiences with the CNS - their first ever sailing onboard any warship. During the discussions, the Directing Staff expressed their appreciation on the high-quality training and exposure that they received onboard the IN ships. In his address, the CNS welcomed the RSNF delegation in India and reaffirmed that the maiden training of Saudi cadets by Indian Navy as testimony to the growing friendship between Saudi Arabia and India as also the two Navies. He acknowledged the assistance received from the Govt of Saudi Arabia during the recent evacuation of Indian nationals from Sudan. Emphasising the close relations and cooperation between the two navies, the CNS reaffirmed that the joint exercises, staff talks and training exchanges with the RSNF have progressed well over the years and signifies the strong bond between the two Navies. He also brought out that both countries share similar views with regard to maritime security and closely operate with each other towards ensuring safe and secure seas in the region.



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A detailed image of a Mi-28NE combat helicopter in flight against a clear blue sky. The helicopter is shown from a low angle, highlighting its attack posture with forward-firing missiles and machine guns. The main rotor blades are blurred due to motion. The tail boom and tail rotor are also visible.

Mi-28NE

Combat helicopter



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