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Subscription/Circulation

Annual Inland: ₹1,200 • Foreign: US\$320

E-mail: subscribe@spguidepublications.com

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With nearly 2,500 Falcons delivered to date, the Falcon range of Business Jets have been one of the market leaders in the wide cabin, long range segment for 50 years. Falcon 10X is the latest member of the Falcon family

(Cover Photo: Dassault Falcon)

COVER DESIGN BY: SP's Team



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NEXT ISSUE: *Wrap of 2024*



India continues to make remarkable strides in technology, defence, aviation, and diplomacy, reinforcing its position as a key player on the global stage. Recent developments highlight the nation's drive to innovate and collaborate across diverse domains.

ON NOVEMBER 19, 2024, NEWSPACE INDIA LIMITED (NSIL) marked a major achievement with the launch of GSAT-N2 (GSAT-20), a high-throughput satellite, aboard SpaceX's Falcon 9 rocket. This mission underscores India's growing commitment to leveraging space technology for societal and commercial benefits, while showcasing its potential in the heavy-lift launch vehicle segment. Such advancements are poised to secure India's role in the burgeoning global space economy. Ayushee Chaudhary brings you a detailed report on this launch.

Complementing these efforts, the Defence Space Agency (DSA) conducted Antariksha Abhyas-2024, a strategic table-top exercise aimed at enhancing the Indian Armed Forces' preparedness in space warfare. This initiative reflects India's recognition of space as a critical domain in modern warfare, strengthening its strategic readiness. Air Vice Marshal Sanjay Bhatnagar (Retd) highlights the importance of this milestone in securing India's interests in an increasingly contested space environment.

With the impending return of Donald Trump to the US presidency, India could witness another transformative phase in its bilateral relations with the United States. While Trump's policies may emphasise economic transactions, there is significant scope for convergence in mutual interests spanning technology, security, and economic growth. The evolving partnership holds promise for shaping a new era of cooperation between the two democracies, further enhancing India's global influence. Manish Jha talks about how the convergence of mutual interest for both democracies is too obvious.

India's aviation sector is abuzz with activity, reflecting both ambition and innovation. Business aviation financing has emerged as a dynamic market, catering to the growing demand for luxury and corporate aircraft. With a specialised focus on financing options and risk mitigation, this sector supports a range of stakeholders, including high-net-worth individuals and corporations. An article by Ayushee Chaudhary gives you the necessary details on Business Aircraft financing.

Meanwhile, Dassault Aviation's Falcon jet family continues to capture the imagination of the business jet market. Drawing from its fighter jet legacy, the Falcon line combines efficiency, performance, and elegance, culminating in the Falcon 10X. This family of aircraft exemplifies cutting-edge range and speed, reinforcing Dassault's leadership in aviation innovation. Ayushee Chaudhary gives you an overview on the entire Falcon family, covering each aircraft in it.

In an effort to bolster regional air connectivity, the Indian government has introduced new DGCA rules to simplify operations for seaplanes. These measures aim to enhance accessibility to remote areas under the UDAN scheme, with trial runs recently conducted in Andhra Pradesh, Kerala, Lakshadweep, and Meghalaya. Swaati Ketkar has a detailed coverage of the recent trial runs of Seaplanes and how these advancements across diverse sectors not only underscore India's progress but also highlight its capacity for strategic collaboration and innovation, shaping a promising trajectory for the nation on the global stage.

In regional aviation, SpiceJet has resolved a long-standing dispute with Bombardier through a \$90 million settlement. In his story, Manish Jha explains how this deal is particularly notable because it involves the acquisition of 13 Q400 aircraft, a key component of SpiceJet's regional flight network.

All this and more in this issue of *SP's Aviation*. Welcome aboard and we wish you many happy landings!



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PUBLISHER & EDITOR-IN-CHIEF

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GSAT-N2 MISSION FROM FLORIDA. LEVERAGING SPACEX'S FALCON 9 ROCKET, THIS MISSION UNDERSCORES INDIA'S PRAGMATIC APPROACH TO OVERCOMING PAYLOAD CHALLENGES WHILE SHOWCASING INTERNATIONAL PARTNERSHIPS IN SPACE EXPLORATION.

INDIA'S GSAT-20 SATELLITE LAUNCHED

Symbolising growing technology, growth & collaboration, this mission highlights India's dedication to leveraging space technology for societal progress, expanding its role in commercial space ventures while underscoring the potential for India's heavy-lift launch vehicles to capture future opportunities

By AYUSHEE CHAUDHARY

PHOTOGRAPH: SPACEX / X

THE LATEST INDIAN SATELLITE GSAT-20 LAUNCH EXEMPLIFIES India's push toward advanced space technology and international collaboration, enhancing connectivity for underserved regions while paving the way for a digitally inclusive and globally integrated future. On November 19, 2024, NewSpace India Limited (NSIL) achieved a significant milestone with the successful

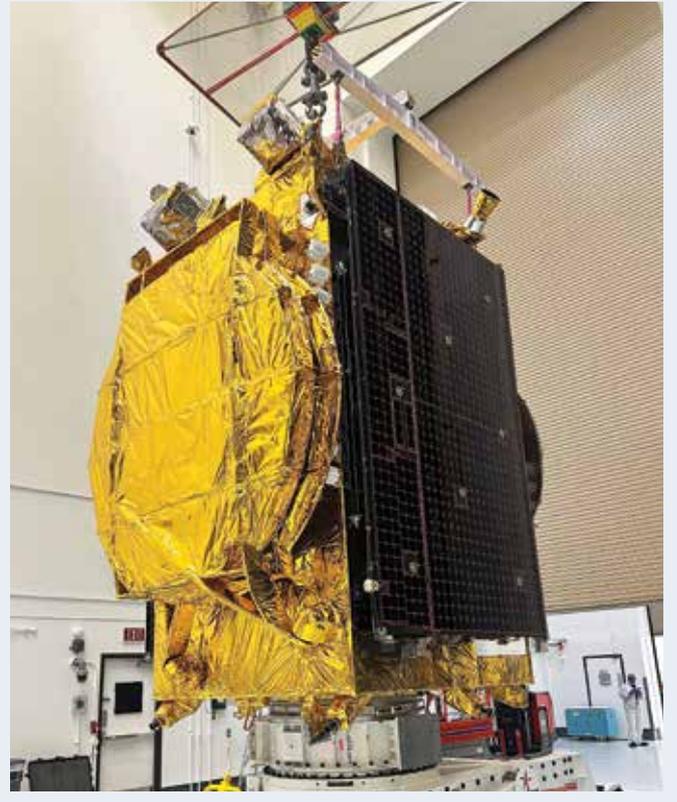
launch of GSAT-N2 (GSAT-20), a cutting-edge high-throughput satellite (HTS), aboard SpaceX's Falcon 9 rocket. Launched from Space Launch Complex 40 at Cape Canaveral Space Force Station, Florida, this mission marks a critical advancement in India's communication satellite technology while underlining the reliance on international collaboration for heavy satellite launches.

TECHNOLOGICAL INNOVATIONS IN GSAT-N2

GSAT-20, ISRO'S MOST ADVANCED COMMUNICATION SATELLITE, is designed to address India's growing connectivity demands:

- **Enhanced Capacity:** Delivering 48 Gbps of throughput via 32 beams, GSAT-N2 ensures comprehensive broadband coverage, including remote regions like the Andaman, Nicobar, and Lakshadweep Islands.
- **Ka-Band Frequency:** This satellite, ISRO's first to rely solely on the Ka-band (27-40 GHz), offers high-bandwidth data transmission, ideal for in-flight internet and Smart Cities projects.
- **Durable Design:** Built for a 14-year mission life, the satellite employs advanced Carbon Fiber Reinforced Polymer (CFRP) structures and lithium-ion batteries for efficiency and durability.
- **Advanced Payload:** The satellite features deployable reflectors generating precise spot beams supported by hub stations across mainland India.

"GSAT-N2 is a next generation communication satellite owned by NSIL and built by ISRO. This spacecraft will provide broadband services and IFC primarily in the Indian region. Its 32 spot beams would be primarily covering India mainland and islands of this region. It is further designed to enhance the capacity by providing 8 narrow spot beams over the North-Eastern region which requires this support for essential communication requirements. While building this satellite we used the support of various Indian industries who helped us with many sub-systems, structures, hardwares meant for the satellite and also the payloads and ISRO centres contributed in building the satellite, finally. The propulsion system is a bi-propellant system for orbiting and its station keeping. As soon as the satellite is in the required spot, we are ready with the ground infrastructure to provide the network of communication," stated Dr S. Somanath, ISRO Chairman and Secretary, Department of Space. 



After nearly 34 minutes of flight, GSAT-N2 successfully injected into its intended super Geo-Synchronous Transfer Orbit (GTO) with Perigee of 250 km, Apogee of 59,730 km and 27.5 degree inclination. Post-separation of GSAT-N2, ISRO's Master Control Facility at Hassan, India took control and initial data received indicates good health of the satellite. In the coming days, the orbit of GSAT-N2 would be raised from GTO to Geo-Stationary Orbit (GSO), through a series of orbit raising maneuvers using satellite's on-board chemical propulsion system. The satellite would be finally positioned at 68 deg. E longitude for commencing its operational services.

KEY FEATURES OF GSAT-N2

At 4,700 kg, GSAT-N2 is one of the heaviest and most advanced communication satellites of the Indian Space Research Organisation (ISRO). Designed under NSIL's demand-driven model, it serves India's burgeoning need for broadband and in-flight connectivity (IFC), especially in remote regions. The satellite operates in the Ka-band spectrum and features an impressive 48 Gbps throughput, with its 32 spot beams covering the entire country, including the Andaman & Nicobar and Lakshadweep islands and the remote areas of the North Eastern region of the country.

This sophisticated spacecraft leverages a multi-beam architecture for frequency reuse, ensuring high data rates and system efficiency. Its payload includes deployable reflectors and cutting-edge communication systems, all built on ISRO's versatile I6K bus structure. The GSAT-N2 also employs a bi-propellant

propulsion system and advanced power systems, delivering up to 6 kW of electrical power. With a mission lifespan of 14 years, the satellite is poised to meet India's expanding digital and connectivity needs for over a decade.

PRECISION DEPLOYMENT AND TESTING

After launch, the GSAT-N2 is undergoing orbital maneuvers to reach its geostationary orbit at 36,000 km. Over two weeks, its onboard propulsion system will raise its orbit, followed by rigorous in-orbit testing to verify the Ka-band payload's high-performance capabilities.

As GSAT-N2 undergoes orbit-raising maneuvers and prepares for its final placement at 68°E longitude, it is expected to become fully operational by January 2025. Its successful deployment sets the stage for further innovation in India's space programme, addressing both domestic and global challenges in connectivity and digital infrastructure.

BRIDGING CONNECTIVITY GAPS

GSAT-N2 is a game-changer for India's digital landscape. By providing robust broadband services and enabling IFC for airlines and ships, the satellite supports India's ambitions for a Smart Cities Mission and wider digital inclusion. Its capacity for cellular backhaul also holds promise for strengthening mobile networks in remote and underserved areas. With its large capacity and reach, the satellite demonstrates the evolution of ISRO's technological capability. GSAT-N2 is pivotal for improving in-flight connectivity, cellular backhaul, and rural broadband services.

Its innovative multi-beam architecture allows frequency reuse, ensuring efficient service delivery to underserved regions.

“The successful launch of GSAT-N2 by NSIL marks the beginning of the commercially competitive satellite capacity solutions being available to Indian VSAT operators for meeting the country’s Broadband and IFMC service needs,” said Radhakrishnan D., Chairman and Managing Director of NSIL.

WHY SPACEX’S FALCON 9 WAS THE CHOSEN ROCKET?

The decision to use SpaceX’s Falcon 9 rocket for this mission reflects India’s pragmatic approach to overcoming challenges in heavy payload launches. While ISRO’s LVM-3 rocket can carry payloads up to 4,000 kg, GSAT-N2’s 4,700 kg mass exceeded its capacity. Traditionally, India has relied on Arianespace’s Ariane rockets for such missions. However, with the unavailability of operational Ariane rockets at the time, NSIL turned to SpaceX, which has proven itself as a reliable and cost-effective provider of launch services. GSAT-N2 exceeded the payload capacity of India’s launch vehicles, and SpaceX’s Falcon 9 was selected as the optimal solution through a competitive bidding process.

Highlighting the collaborative spirit of the mission, NSIL Chairman and Managing Director Radhakrishnan D. remarked, “SpaceX was chosen after a competitive RFP process that saw several bidders. This mission represents a new milestone, being launched from US soil on a Falcon 9 rocket. While this agreement is specific to this launch, future opportunities will be considered as needed.”

This mission marked the 19th flight of the Falcon 9 booster used, demonstrating the reusability and reliability of SpaceX’s technology. Such partnerships highlight India’s increasing collaboration with global space players to meet its ambitious goals.

The medium and heavy-lift launch vehicle market is poised for notable expansion, with projections indicating a significant rise in market value over the next decade. According to BIS Research, the global market is expected to grow from \$6.45 billion in 2021 to \$9.75 billion by 2032, registering a compound annual growth rate (CAGR) of 3.90 per cent between 2022 and 2032.

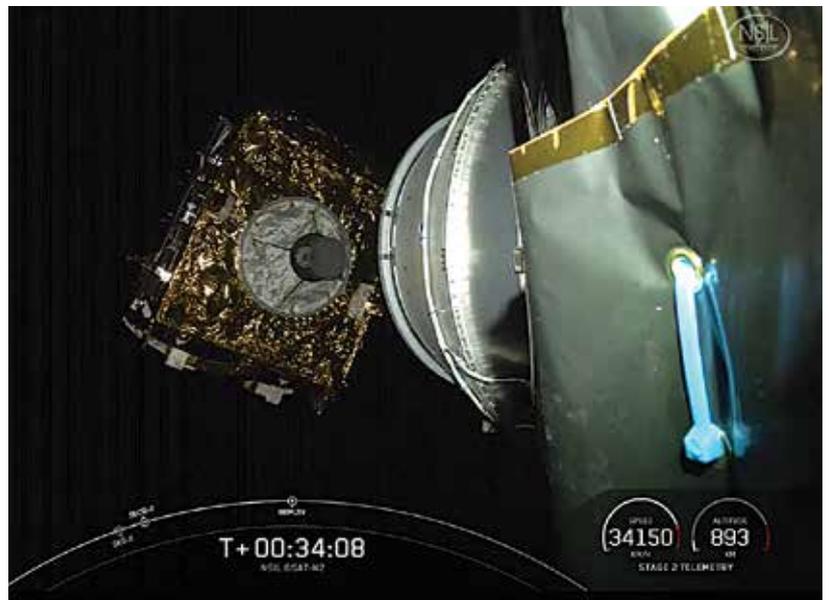
This growth is driven by an increasing demand for launch vehicles to accommodate a surge in proposed satellites. Key factors fueling this trend include the development of large satellite constellations aimed at providing global broadband coverage, advancements in commercial human spaceflight, innovations in position, navigation, and timing (PNT) technologies, and heightened interest in space exploration and monitoring activities. These dynamics collectively contribute to the robust expansion of the medium and heavy-lift launch vehicle market.

LVM-3 is ISRO’s heaviest launch vehicle and holds a successful track record including crucial missions like the Chandrayaan-3. Going forward, the capacity of LVM-3 to launch heavier payloads is also expected to increase over the next couple of years as this is a significant market that must be tapped into for heavier Indian satellites to be launched more easily from homeland and become self-sufficient as well as for more global customers to utilise India’s rockets and commercialise the service.

A STEP FORWARD IN INDIA’S SPACE REFORMS

The GSAT-N2 mission is part of NSIL’s efforts to implement India’s space sector reforms announced in 2020, which emphasise a demand-driven approach to satellite development. Under this model, NSIL builds, owns, and operates satellites based on the specific needs of Indian service providers. This mission follows the success of GSAT-24, launched in 2022, and signals India’s growing commercial competitiveness in the satellite market. Following GSAT-24, leased entirely to Tata Play in 2022, GSAT-20 is tailored for multiple service providers, catering to broader market demands. GSAT-20 is preferably referred to as GSAT-N2, given it is NSIL’s second demand driven mission. Presently, NSIL owns and operates 11 communication satellites in orbit.

With GSAT-N2, India not only strengthens its technological capabilities but also highlights the importance of strategic global



AT 4,700 KG, GSAT-20 IS ONE OF ISRO’S MOST ADVANCED SATELLITES, DESIGNED TO MEET INDIA’S GROWING BROADBAND, IN-FLIGHT CONNECTIVITY (IFC), AND REMOTE REGION COMMUNICATION NEEDS

collaborations in pushing the boundaries of what’s possible in space exploration and communication technology. Hence, the GSAT-20 underscores India’s growing ambitions in the global space sector. By integrating advanced technology with international partnerships, NSIL is paving the way for a digitally inclusive future while showcasing India’s expertise on the global stage.

Enhancing connectivity, the mission once again highlights how space technology benefits life here on earth. The GSAT-N2 mission signifies more than just a technological leap for India; it is a testament to the nation’s evolving approach to space innovation and international partnerships. By leveraging advanced communication technologies, global collaborations, and government-backed reforms, the satellite paves the way for inclusive connectivity, enabling underserved communities, fostering Smart Cities, and enhancing in-flight services. This landmark mission reflects India’s commitment to harnessing space as a tool for societal advancement, positioning itself as a key player in the global commercial space landscape while bridging the digital divide for a better connected future. SP

PHOTOGRAPH: SPACE X



DEFENCE SPACE AGENCY

Antariksha Abhyas 2024



GENERAL ANIL CHAUHAN, CHIEF OF DEFENCE STAFF LAUNCHED "ANTARIKSHA ABHYAS", THE FIRST EVER TRI-SERVICES DEFENCE SPACE EXERCISE, PREPARING INDIAN ARMED FORCES TO SECURE SPACE ASSETS

ANTARIKSHA ABHYAS-2024

The first ever tri-services Defence Space Exercise was a significant building block towards holistic capability in global space operations

By AIR VICE MARSHAL SANJAY BHATNAGAR (RETD)

DEFENCE SPACE AGENCY (DSA) OF HEADQUARTERS INTEGRATED

Defence Staff (HQ IDS) in the month of November successfully conducted the Space Table Top Exercise named Antariksha Abhyas-2024. In the strategic circles, it is being described as a significant milestone aimed at bolstering the strategic readiness of Indian Armed Forces in the domain of space warfare.

DEVELOPING SPACE BASED CAPABILITIES

This pioneering event marked a crucial step in strengthening India's space based operational capabilities and enhancing tri-services integration for space security.

General Anil Chauhan, Chief of Defence Staff inaugurating the first ever tri-services Defence Space Exercise highlighted that the exercise is aimed at preparing Indian Armed Forces to secure space assets, integrating cutting-edge technology to protect our future. He reaffirmed that commitment to enhance capabilities in space warfare is a national priority and control over space assets results directly into national security advantage. He emphasised the need to develop concepts and procedures

to protect against vulnerabilities for securing our national strategic interests in space. The CDS also suggested a collaborative approach between military and Defence Research and Development Organisation (DRDO), Indian Space Research Organisation (ISRO) and academia for fostering space systems developments.

Tabletop exercise is an informal, discussion-based session in a collegial and exploratory manner, in which participants discuss their roles and responses during an emergency or a contingency, usually walking through a few likely scenarios.

The three day exercise from November, 11 to 13 was conducted under the aegis of DSA. It is one of three tri-services organisations that was approved on September 28, 2018, as implementation of the proposal of Kargil Committee reforms- the other two being the Defence Cyber Agency (DyCA) and Armed Forces Special Operations Division (AFSOD). DSA has been set up as an integrated body to take the requirements of all the three armed services and consolidate their space-related capabilities to enhance coordination among military space activities, fostering synergy with ISRO, DRDO and the Armed

PHOTOGRAPH: PIB

Forces. DSA draws personnel from all three branches of the Armed Forces. It focuses on formulating a comprehensive space warfare strategy and developing space-based systems to safeguard Indian interests and address potential conflicts.

EXERCISE ANTARIKSHA ABHYAS-2024

Throughout the three-day event, participants engaged in scenario-based exercises, facilitated by subject matter experts (SMEs) from various Ministries and Departments of the government, besides military, scientific and academia. These SMEs provided valuable insights into the present and future landscape of military space capabilities and technologies, elucidating specific challenges faced in defence space operations and also the evolving nature of space safety, security, and international space laws.

The exercise marked a major step in strengthening India's space-based operational capabilities, enhancing tri-services integration for space security. The exercise included focused discussions on emerging space technologies, space situational awareness, and India's space programmes.

A release by the Ministry of Defence brought out that space exercise provided enhanced understanding of space-based assets and services, and aided in gaining better understanding of operational dependency on space segment between stakeholders. In addition, the exercise aimed to "identify vulnerabilities" in conduct of operations in the event of "denial or disruptions" of space-based services.

Exercise Antariksha Abhyas-2024 concluded with Air Vice Marshal Pawan Kumar, DG DSA, emphasising nation's commitment to secure, safe and sustainable space operations. Key outcomes included refined strategies for operational preparedness, a robust framework for future collaboration and a clear road map for advancing India's Space doctrine and capabilities in the line with National Security objectives.

In Indian context all three armed forces have been leveraging their combat capabilities by employing various tools and systems of space domain. Space sector reforms commencing 2020 onwards have catalysed various space capabilities through private space sector. Requirements of Indian Armed Forces have been projected as Defence Space Challenges (DefSpace) to Indian private space sector to develop various capabilities for the armed forces. India's ASAT demonstration in 2019 too has proved pivotal in underscoring its deterrence capability. Also, certain essential space and counterspace capabilities are under various stages of development for the Indian armed forces.

Exercise Antariksha Abhyas-2024 is indeed a significant milestone in bolstering the strategic readiness of the Indian armed forces in the domain of space warfare. It reveals India's readiness for future multi domain wars.

The recently concluded exercise has larger strategic connotations. It needs to be viewed in the Indian context as an

exercise that marks a pivotal point in India's journey to secure its interests in space, reaffirming the nation's advancement and strategic focus on this critical technical domain.

EXERCISE GLOBAL SENTINEL

In the global context, Exercise Antariksha Abhyas-2024 could also be considered as a building block approach towards India's efforts in enhancing capabilities in military space sphere through collaboration and cooperation. Next year India has been invited to participate in US Space Command's (USSPACECOM) annual Global Sentinel exercise.

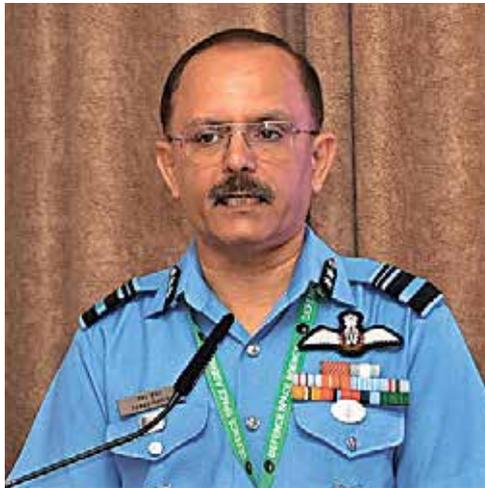
Exercise Global Sentinel began in 2014 with seven participating nations, and has steadily increased participation to 25 nations this year- including the US, Australia, Belgium, Brazil, Canada, Germany, Israel, Spain, Finland, France, United Kingdom, Greece, Italy, Japan, Republic of Korea, Netherlands, Norway, New Zealand, Peru, Poland, Portugal, Romania, Sweden, Thailand and Ukraine. Indian representatives joined for the first time this year in mid-February as observers during the last two days, now next year Indian military officials are planned to be formally included as participants.

The plan for India's military to join next year's Global Sentinel exercise is one of the key initiatives under the wide ranging US-India initiative on Critical and Emerging Technology (iCET) agreement launched last January. Space cooperation is one of the eight thrust areas under the iCET. Progress on iCET is being reviewed at the highest level by the two nations, last such review was held in June 17 this year between the US National Security Advisor Jake Sullivan and Indian counterpart, Ajit Doval, jointly chairing the iCET's second meeting in New Delhi.

During Exercise Global Sentinel in February this year, the participants explored areas of opportunity to support the safety and sustainability of space through increased mission assurance and resilience through a multinational force. Discussion topics included increasing intelligence and information sharing, solidifying a standardised multinational command and control structure, and expanding into new missions. USSPACECOM working with its allies and partners, plans, executes, and integrates military spacepower into multi-domain global operations in order to deter aggression, defend national interests and when necessary, defeat threats.

CONCLUSION

Table Top exercises like Antariksha Abhyas-2024 are not uncommon in the realm of armed forces, think tanks and government bodies of space faring nations. These help in understanding gaps, vulnerabilities, fostering cooperation among all the stakeholders and laying down the path ahead in terms of developmental goals to meet the aspirations of stakeholders. It indeed is an appropriate step towards India's trajectory of establishing a Space Command in foreseeable future. **SP**



EXERCISE 'ANTARIKSHA ABHYAS' CONCLUDED WITH AN ADDRESS BY AIR VICE MARSHAL PAWAN KUMAR, DG DEFENCE SPACE AGENCY

PHOTOGRAPH: HQ_IDS_INDIA / X



THE RETURN OF DONALD TRUMP TO THE WHITE HOUSE COULD RESHAPE INDO-US RELATIONS, PRESENTING BOTH OPPORTUNITIES AND CHALLENGES FOR INDIA, ESPECIALLY IN AREAS OF TRADE AND STRATEGIC COLLABORATION

TRUMP'S VICTORY: WHAT WILL IT UNFOLD FOR INDIA

For India, one of the most significant aspects of Trump's return will be his approach to China. There is a possibility that Trump will continue to view India through a transactional lens, prioritising trade deficits and economic returns. The role which the US plays as the global tech powerhouse is the model for future growth which cuts across economy to security. In all potential, there are mostly positive signs, rather another defining era for Indo-US relations could unfold if indicators are right. The convergence of mutual interest for both democracies is too obvious.

By MANISH KUMAR JHA

PHOTOGRAPH: PIB

THE RETURN OF DONALD TRUMP TO THE WHITE HOUSE IN 2024

is likely to have far-reaching implications not just for the United States but for its global partners, with India being no exception. As the world's largest democracy, India has cultivated a complex but robust relationship with the US over the past few decades, navigating through geopolitical, economic, and diplomatic shifts. Trump's presidency in 2016-2020 was marked by a series of bold and often unpredictable policy moves, and the possibility of his return raises important questions about how his second term will reshape Indo-US relations.

In 2025, with Trump back in office, will India have to navigate and balance between greater strategic collaboration but also the risk of further economic friction built on his assertion around trade and tariffs?

STRATEGIC ALLIANCE OR TACTICAL POSTURING?

One of the most significant legacies of Trump's first term was strengthening the US-India strategic partnership. Under his leadership, the US and India moved closer, particularly in the areas of defence, counterterrorism, and trade. Trump's administration voiced strong support for India's territorial integrity, especially concerning Pakistan, while recognising India as a key counterweight to China in the Indo-Pacific region. This alignment with India's broader regional and global aspirations signalled a partnership that went beyond traditional diplomatic niceties.

Trump's "America First" foreign policy was equally marked by unpredictability and occasional erraticism. India benefitted from his assertive stance against China, but Trump's transactional approach to diplomacy left many of India's long-term goals in a state of uncertainty. The trade tariffs and the US pullback from multilateral agreements, such as the Paris Climate Agreement, left India grappling with a world order that was being rapidly redefined.

There is a possibility that Trump will continue to view India through a transactional lens, prioritising trade deficits and economic returns. While this may mean short-term economic gains for India—particularly in defence contracts and trade—India will also have to be cautious about the broader implications of this transactional approach for long-term diplomacy.

However, there are already assuring messages as External Affairs Minister S. Jaishankar said, "The India-US relationship is a train on steady tracks, no matter who takes the White House." In a joint press briefing in Australia with his counterpart Penny Wong, Jaishankar emphatically stated that the India-US bond has not only survived but thrived through five different presidencies. "Our relationship with the United States will only grow, regardless of the election outcome," he remarked.

ECONOMIC REALIGNMENT, ADVANCED TECH COLLABORATION

In Trump's first term, his administration imposed tariffs on Indian goods, and despite the growing defence and security ties,

trade relations remained a contentious issue. Trump's focus on narrowing trade deficits meant that India often found itself at odds with the US over issues like market access, intellectual property rights, and data localisation.

With his re-election, India may once again find itself under pressure to resolve trade issues in a manner that favours US economic interests. Given the economic strain caused by the pandemic and the global shifts in supply chains, India's trade surplus with the US could become a key bravado, particularly as the US pushes for greater market access and trading practices.

However, the most critical is the advancement that has taken place in the bilateral space of India-US relations. The economic



TRUMP'S FIRST TERM STRENGTHENED THE US-INDIA STRATEGIC PARTNERSHIP, PARTICULARLY IN DEFENCE, COUNTER TERRORISM, AND AS A COUNTERWEIGHT TO CHINA

relationship between the two countries has diversified beyond traditional industries.

In the last five years, the scope of trade has transcended from traditional trade and commerce to the higher realm of critical and emerging technology, which is definitive to the new era of economic growth based on areas like semiconductors and sensors.

In defence, the partnership has indeed moved up a higher value chain like the acquisition of strategic drones from the US like MQ-9B which is worth over \$4 billion. So far, as per an estimate, it will raise the total value of US defence contracts with India to over \$25 billion since 2007.

Additionally, in the greater military-strategic sphere, India signed a \$716 million contract in 2021 for the supply of 99 F404 engines for LCA Tejas, and further, a partnership for newer F414 engines for the forthcoming Tejas Mk2 for the joint production of the jet engines in India.

With the rise of India's tech sector, pharmaceuticals, and digital services, India's role in the global supply chain has become increasingly crucial. India's economic resilience and

growth, paired with Trump's strong inclination towards American businesses, could rather lead to new opportunities in areas like healthcare, technology, and defence manufacturing, but only if trade tensions are managed carefully.

In fact, frictions, if any on trade, tariffs, and domestic political issues on immigration, there will be greater gains and benefits to India from the ongoing supply chain shifts, as de-risking from China gathers momentum under a Trump presidency according to a global research agency, Nomura.

With this, India is also well-prepared to handle any volatility stemming from US policies, amid its large forex reserves buffer, continuing growing economy, robust fiscal discipline and market reforms.



INDIA MUST MAINTAIN A BALANCED FOREIGN POLICY, EVEN AS IT LEVERAGES THE OPPORTUNITIES IN A POTENTIALLY INTENSIFIED PARTNERSHIP WITH THE US

THE CHINA FACTOR: A DOUBLE-EDGED SWORD

For India, one of the most significant aspects of Trump's return will be his approach to China. The Trump administration took a hawkish stance against China, engaging in a trade war, imposing tariffs, and taking a hard line on issues like the South China Sea and Taiwan. This approach aligned with India's strategic interests, particularly as India found itself locked in an ongoing border standoff with China in the Himalayas.

Trump's vocal criticism of China and his administration's efforts to build stronger alliances with Indo-Pacific nations were welcomed by India, especially as the geopolitical rivalry between India and China intensified. In this sense, Trump's return may offer a continued strategic advantage for India, especially if he maintains his confrontational stance on China.

However, there are risks. Trump's foreign policy has often been defined by volatility, and his tendency to take unpredictable, unilateral actions—such as pulling out of international agreements or imposing sanctions—could destabilise the region and disrupt India's diplomatic initiatives. A sudden shift in US policy, or an overemphasis on bilateral trade with China, could

place India in a difficult position, especially given its complex trade relationship with China.

Also, it is important that we take into account the shifting investment and manufacturing base in India and the ASEAN is largely from the US, Europe, and key Asian economies (Japan and Korea). In such a situation, these are the offsets for India in case of any radical policy change or embargo on the third countries.

A POLITICAL GAMBLE

Trump's return to power is also likely to have domestic political consequences for India. The US president's rhetoric—often confrontational and divisive—can be a double-edged sword for Indian leadership. Modi-Trump camaraderie during Trump's first term was largely seen as an alignment of leadership, with shared visions of nationalism and protectionism. However, the optics of a Trump victory could also be polarising, both domestically and internationally.

India's leaders will have to carefully calibrate their public diplomacy, emphasising the benefits of the US-India partnership while managing any potential fallout from Trump's more controversial positions. A potential shift in US immigration policies or visa restrictions could further complicate matters, especially for India's large diaspora in the US.

NAVIGATING A COMPLEX FUTURE

India's relationship with the United States under a second Trump term is likely to be shaped by a combination of continuity and uncertainty. While India stands to benefit from a continued strategic alliance with the US, particularly in countering China, the transactional nature of Trump's diplomacy means that India will have to be agile in managing economic and trade concerns. Additionally, India must navigate the global and domestic ramifications of Trump's rhetoric and political style,

which could both help and hinder the bilateral relationship.

In this new geopolitical environment, India must continue to assert its interests, pursuing a balanced foreign policy that is not overly reliant on any single power but of course, a greater alignment with the US is certainly an advantage to India. The role which the US plays as the global tech powerhouse is the model for future growth which cuts across economy to security. In all potential, there are mostly positive signs, rather another defining era for Indo-US relations could unfold if indicators are right. The convergence of mutual interest for both democracies is too obvious.

India's long-term objectives should remain focused on strengthening its regional leadership, enhancing multilateral ties, and investing in the emerging global order, even as it collaborates with the Trump administration on shared challenges and opportunities. SP

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POST-PANDEMIC SURGE IN PRIVATE AND CHARTERED FLIGHTS HAS DRIVEN SIGNIFICANT GROWTH IN THE BUSINESS AIRCRAFT FINANCING MARKET

FLIGHT PLAN FOR NAVIGATING BUSINESS AIRCRAFT FINANCING

The business aircraft financing market has witnessed significant growth post-pandemic, driven by increased demand for private and chartered flights

By AYUSHEE CHAUDHARY

WITH GLOBAL BUSINESS AVIATION ON THE RISE, FINANCING for business aircraft has become a specialised market, catering to high-net-worth individuals, corporations, and charter services alike. In an industry shaped by luxury and high utility,

financing options must be as varied and sophisticated as the jets themselves while navigating the landscape of business aircraft financing, exploring available options, risks, and resources to support informed decision-making.

The business aircraft financing market has witnessed significant growth post-pandemic, driven by increased demand for private and chartered flights. Financial institutions are adapting to this trend by offering flexible financing solutions tailored to sole ownership, fractional ownership, and charter services. Key players include global banks, private equity firms, and specialised aviation finance institutions, supported by consulting firms which provide expert guidance on structuring high-value transactions. However, the sector still faces challenges such as stringent regulatory compliance, substantial upfront costs, and complex depreciation schedules, requiring a careful balance between risk and liquidity management.

Business jet financing offers tailored solutions to meet diverse ownership and operational needs. Traditional loans from major financial institutions are a common choice, offering competitive interest rates and extended repayment terms. Leasing options, such as operating and finance leases, provide flexibility without the commitment of ownership. Fractional ownership appeals to corporate users by reducing costs through shared aircraft access while tax-advantaged financing further aids buyers by offsetting operational expenses against taxable income, often requiring expert advice from aviation tax consultants.

Some of the key factors when evaluating financing include creditworthiness, aircraft age and model, and repayment terms. Newer models with warranties are typically preferred by lenders due to higher resale values. Risk management and comprehensive insurance are essential to mitigate unique financing risks. Additionally, sustainability is influencing financing trends, with ESG factors, such as the use of sustainable aviation fuel (SAF), gaining prominence in decision-making.

KEY FOR FINANCING A BUSINESS AIRCRAFT

Financing a business aircraft requires thorough planning and strategic decision-making to balance immediate costs with long-term operational needs. Buyers should first define their travel requirements, considering factors such as frequency, destinations,

and range. For instance, frequent domestic travel might justify a midsize jet, while international trips may be better suited to charter options under the “90/10 rule,” which helps balance operational expenses.

Financing options include traditional loans, requiring documentation such as tax returns and pre-purchase evaluations, with terms like interest rates and amortisation periods impacting overall affordability. Alternatively, leasing—via dry or wet leases—offers lower upfront costs and quicker delivery, especially for non-scheduled operators.

Buyers must also assess the aircraft’s compatibility with India’s regulatory ecosystem, ensuring access to maintenance facilities, spare parts, and trained personnel. Additionally, evaluating life-cycle costs, including fixed and variable expenses, is essential to understanding total ownership costs.

Engaging experts like aircraft management firms or financial institutions can streamline the process, ensuring regulatory compliance, structuring deals effectively, and facilitating due diligence. A well-structured approach can result in a cost-effective and operationally efficient acquisition.

ADVANCEMENTS IN AIRCRAFT LEASING AND FINANCING IN INDIA

India has witnessed significant milestones in aircraft leasing and financing over the past few years. Despite challenges such as the COVID-19 pandemic, the aviation sector has displayed resilience and is on a trajectory of substantial growth. With a focus on improving domestic and international connectivity, leveraging its strategic location, and catering to growing hinterland demand, India’s aviation industry is primed for expansion.

India remains a lessee-dominated market, with about 80 per cent of commercial aircraft leased from foreign lessors based in jurisdictions like Ireland and Singapore. This reliance results in substantial foreign exchange outflows through lease rentals and interest payments. However, there is a shift as Indian airlines explore aircraft ownership. Recognising this trend, the Indian

BUSINESS JET FINANCING INCLUDES TRADITIONAL LOANS, LEASING SOLUTIONS, AND FRACTIONAL OWNERSHIP MODELS THAT REDUCE COSTS



ILLUSTRATION: SP'S TEAM



ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG) FACTORS, SUCH AS THE ADOPTION OF SUSTAINABLE AVIATION FUEL (SAF), ARE INCREASINGLY SHAPING BUSINESS AIRCRAFT FINANCING DECISIONS

government has implemented measures to foster domestic aircraft leasing and financing capabilities.

GIFT CITY: A HUB FOR AIRCRAFT LEASING AND FINANCING

Gujarat International Finance Tec-City (GIFT City) is a landmark project representing India’s ambition to become a global financial hub. Located in Gujarat, it operates as a Special Economic Zone (SEZ) and an International Financial Services Centre (IFSC), offering businesses tax incentives and a favorable regulatory environment for global financial operations. India’s maiden IFSC at GIFT City, Gujarat, has become a cornerstone of the country’s aircraft leasing ecosystem. Envisioned under the Project Rupee Raftaar report, this initiative introduces a favorable regulatory and tax regime to attract lessors and financiers.

The Gujarat International Finance Tec-City (GIFT City) represents a bold step in India’s journey to establish itself as a global financial powerhouse. Located in Gujarat, GIFT City operates as a Special Economic Zone (SEZ) and International Financial Services Centre (IFSC), designed to facilitate international financial activities. Envisioned as part of the “Project Rupee Raftaar” report, GIFT City has become a key player in India’s strategy to develop a robust ecosystem for aircraft leasing and financing, a critical step in reducing reliance on foreign lessors.

India’s regulatory framework has undergone significant transformations to accommodate aircraft leasing as a financial product under the IFSC Authority Regulations, 2021. This development allows entities—structured as companies, LLPs, trusts, or branches—to undertake activities like leasing aircraft, engines, and aviation training equipment. These measures are tailored to attract lessors and financiers, aligning with India’s goal of strengthening its aviation sector.

GIFT City offers substantial advantages, particularly in terms of tax benefits. Aircraft leasing units can enjoy a 100 per cent income tax exemption for 10 years within their first 15 years of operation, alongside a reduced corporate tax rate of 22 per cent post-exemption. Moreover, lessors operating in foreign currency benefit from a significantly lower Minimum Alternate Tax (MAT)

| WHY AIRCRAFT LEASING FROM THE IFSC? | | | |
|-------------------------------------|-----------------------------|---------------------------------|---------------|
| Unified Regulatory Regime | Deemed Foreign Jurisdiction | Liberal Policies | Tax Benefits |
| Skilled Talent | Ease of Doing Business | State-of-the-art Infrastructure | IBC Exemption |

Source: PwC Aircraft Leasing In Gift IFSC

of nine per cent. Non-resident lessors leasing aircraft to IFSC units are also exempt from taxes on royalty or interest income until March 2025. Indirect tax incentives include exemptions on Basic Customs Duty (BCD) for aircraft and engines imported into the SEZ, as well as a concessional five per cent IGST on lease rentals.

Beyond taxation, GIFT City offers operational benefits such as streamlined repossession and export procedures, simplified compliance for lessors, and centralised regulatory oversight by the International Financial Services Centres Authority (IFSCA). These factors collectively enhance the ease of doing business and foster a competitive environment for global players.

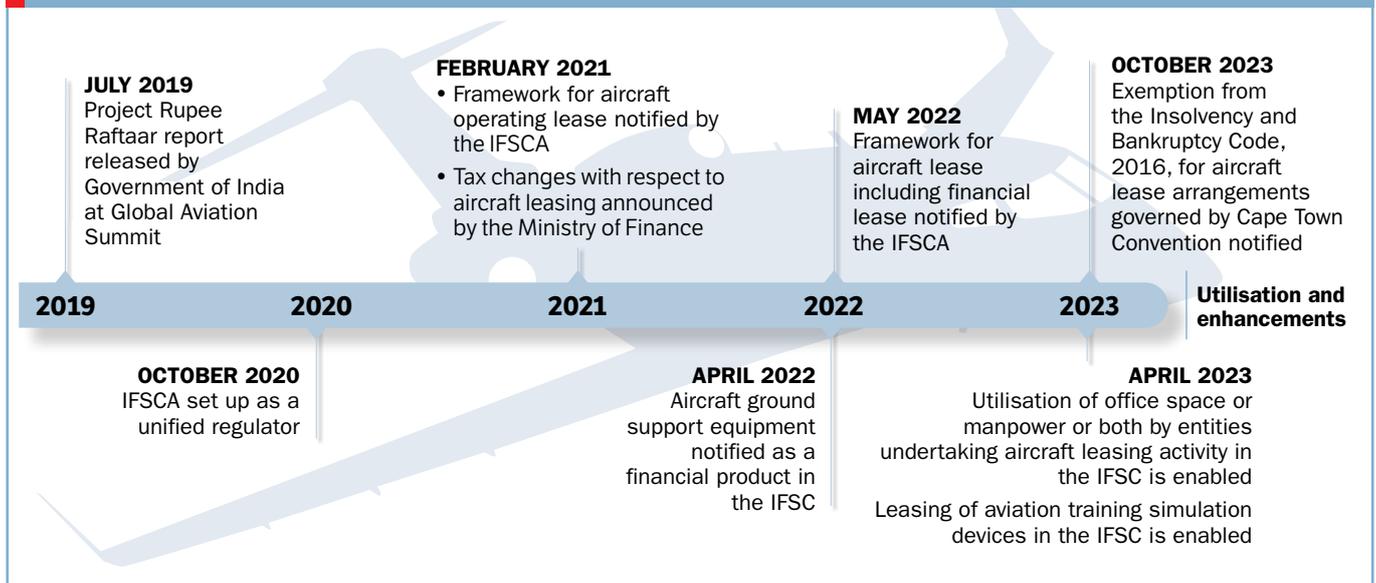
Entities looking to establish leasing operations in GIFT City must follow a structured process. This includes securing office space, incorporating an IFSC unit, completing tax registrations, obtaining SEZ and IFSCA approvals, and acquiring certifications like GST registration. Once operational, units can leverage the city’s ecosystem to access international markets.

However, GIFT City faces challenges in attracting global players. Established hubs like Ireland, with mature ecosystems and attractive tax treaties, remain dominant. Additionally, uncertainties regarding the continuity of India’s tax incentives and concerns over retrospective taxation pose risks for investors.

Despite these challenges, GIFT City has the potential to transform India into a competitive player in aircraft leasing and financing. Its combination of tax benefits, regulatory support,

PHOTOGRAPH: SP GUIDE PUBLIS

AIRCRAFT LEASING IN GIFT IFSC



Source: PwC Aircraft Leasing In Gift IFSC

and strategic location positions it as a promising hub. Continued policy efforts, infrastructure development, and global partnerships will be vital to ensuring its sustained success in the aviation sector, contributing significantly to India’s economic growth.

Aircraft leasing units in Gujarat International Finance Tec-City (GIFT City) benefit from an array of tax and non-tax incentives that enhance its appeal as a hub for global lessors and financiers. Direct tax advantages include a 100 per cent income tax exemption for 10 years within the first 15 years of operation, a post-exemption reduced corporate tax rate of 22 per cent, and a favorable nine per cent Minimum Alternate Tax (MAT) for units operating exclusively in foreign currency. Accelerated depreciation at 40 per cent further supports cost recovery, while non-resident lessors are exempt from taxes on royalty and interest income from leases initiated by March 31, 2025. Indirect tax benefits include exemptions on Basic Customs Duty (BCD) for aircraft and engine imports into the Special Economic Zone (SEZ) and a concessional five per cent Integrated Goods and Services Tax (IGST) on lease rentals. Operational efficiencies are bolstered by streamlined repossession and export processes, the ability to keep repossessed aircraft registered in India, and the proactive governance of the International Financial Services Centres Authority (IFSCA), which reduces bureaucratic hurdles. These comprehensive incentives position GIFT City as a promising destination for global aircraft leasing, combining fiscal savings with regulatory ease to support India’s aviation ambitions.

CHALLENGES IN IMPLEMENTATION

While the advantages are significant, GIFT City faces some challenges that

could impact its adoption as a global aircraft leasing hub. Established markets like Ireland, with mature infrastructures and favorable tax treaties, present stiff competition, making relocation less attractive for prominent lessors. There is also uncertainty regarding the continuation or renewal of the 10-year tax holiday beyond the initial period. Moreover, historical instances of retrospective taxation in India, though unlikely under the current framework, raise caution among potential entrants.

GIFT City’s comprehensive mix of tax benefits, operational efficiencies, and regulatory support positions it as a promising destination for aircraft leasing. However, addressing these challenges and creating a globally competitive ecosystem will be crucial to securing its position as a leader in aviation financing.

GIFT City’s unique blend of tax advantages, streamlined operations, and regulatory support positions it as a burgeoning hub for aircraft leasing and financing. However, overcoming global competition and addressing existing challenges will be key to its sustained success in this domain.

Business aircraft financing is a dynamic sector shaped by global demand, economic fluctuations, and advancing technologies. By considering factors such as financial health, tax benefits, and sustainability trends, buyers and financiers can create strategies that maximise return on investment and efficiency. Resources from institutions like Global Jet Capital, JSSI, and industry reports by NBAA (National Business Aviation Association) provide crucial guidance to navigate this specialised financial landscape. 

GIFT City in Gujarat has emerged as a key hub for aircraft leasing and financing, offering tax incentives, streamlined regulatory processes, and a favourable environment for global lessors and financiers



THE FALCON 10X ELEVATES COMFORT, STYLE AND FLEXIBILITY BEYOND ALL EXPECTATIONS. IT HAS THE LARGEST CABIN OF ANY PURPOSE-BUILT BUSINESS JET AND PIONEERING SAFETY INNOVATIONS.

A LEGACY OF PRECISION, POWER, AND POISE IN THE SKIES

With a vision for comfort, excellence and sustainable aviation, Dassault's Falcon family embodies the peak of technological and environmental advancements

By AYUSHEE CHAUDHARY

PHOTOGRAPH: DASSAULT FALCON



THE FALCON BUSINESS JET FAMILY BRINGS A UNIQUE HERITAGE

rooted in fighter jet technology, drawing inspiration from iconic aircraft like the Mirage and Rafale. This DNA, the manufacturer boasts, is evident in every Falcon model, celebrated worldwide for its balance of performance, efficiency, and elegance. Since the first Falcon jet took to the skies in 1963, Dassault has continued to innovate, culminating most recently in the 10X—a jet embodying the ultimate in range and speed.

The Falcon jet family incorporates advanced technologies that prioritise safety, efficiency, and comfort. The Falcon-Eye Combined Vision System enhances situational awareness for pilots in all weather conditions, offering precise guidance down to 100 feet even on challenging terrain. FalconSphere, Dassault’s Electronic Flight Bag, streamlines mission planning, improving efficiency and reducing costs. The FalconResponse Aircraft On Ground (AOG) support swiftly addresses maintenance needs, with FalconScan monitoring aircraft health to preempt issues. FalconConnect provides seamless high-speed connectivity, while the optional Privacy Suite, featuring adjustable dividers and berthable seating, ensures a versatile, private space for work or relaxation. Dassault’s Digital Flight Control System (DFCS) optimises control surfaces, reducing pilot workload and ensuring a smooth flight, while the EASy flight deck enhances situational awareness and operational precision, solidifying Falcon as a leader in aviation technology.

Beyond performance, Dassault remains committed to sustainability. Falcons integrate eco-friendly features, such as high-aspect-ratio wings to reduce drag and weight-saving materials. Certified to use up to 50 per cent Sustainable Aviation Fuel (SAF), Falcons lead in the shift towards cleaner aviation, with a goal of 100 per cent SAF compatibility. Dassault also actively participates in international research and eco-initiatives, aiming for carbon neutrality by 2050.

Its Falcon family now consists of the most recently launched Falcon 10X, Falcon 6X, Falcon 8X, Falcon 2000LXS, and Falcon 900LX.

FALCON 900LX: PROVEN PERFORMER

The Falcon 900LX redefines business aviation with an optimal mix of fuel economy, reliability, and versatile performance. Known for its powerful three-engine configuration, the 900LX ensures range, speed, and safety for business travellers seeking a refined, comfortable journey. The Falcon 900LX cabin features three distinct lounge areas for working, dining, and resting. With its 74-inch height, 92-inch width, and 33-foot length, the spacious interior also includes advanced sound insulation, ensuring quiet and relaxation. Passengers can adjust lighting to create custom atmospheres, while the 24 windows brighten the cabin with natural light.

Equipped with advanced aerodynamics, including winglets and sophisticated flaps, the Falcon 900LX is designed for efficiency at both high and low speeds. This unique wing design allows impressive short-field performance and access to challenging airports, like London City or Aspen. With a range of 4,750 nautical miles and a top speed of Mach 0.84, the 900LX enables seamless, fuel-efficient nonstop flights from cities like Geneva to Chicago or Mumbai to London City.

Powered by three Honeywell TFE731-60 engines, the Falcon 900LX combines reliability with lower fuel consumption. Each engine delivers 5,000 pounds of thrust, allowing the aircraft to fly more direct routes and maintain high efficiency. This setup also enhances safety and enables more economical over-water travel while reducing environmental impact through compat-



FALCON 900LX: PERFORMANCE

| | |
|---|-----------|
| Maximum number of passengers | 12-14 |
| Range (8 pax, NBAA IFR Reserves) | 4,750 nm |
| Cabin width | 92 in |
| Cabin height | 74 in |
| Maximum Operating Mach Number (MMO) | .87 |
| Maximum Certified Altitude | 51,000 ft |
| Takeoff Distance (Sea Level, ISA, Max Takeoff Weight) | 5,360 ft |
| Landing Distance (Unfactored, Sea Level, ISA, Typical Landing Weight) | 2,415 ft |
| Approach Speed, Vref (Typical Landing Weight) | 110 kias |

Source: Dassault Falcon

ibility with SAF. The 900LX’s high maximum landing weight-to-takeoff weight ratio enables short-haul stops followed by long-haul legs without refueling, saving time and reducing costs. Its range and efficiency extend to over 4,750 nautical miles, allowing nonstop flights across oceans and continents on up to one-third less fuel than comparable jets.

In every detail, the Falcon 900LX, launched in 2008, exemplifies Dassault’s commitment to innovation, combining stylish comfort, operational efficiency, and the agility to reach destinations others cannot—an all-around leader in business aviation.

FALCON 2000LXS: GO WHERE OTHERS CAN'T

The Falcon 2000LXS leads its class with an exceptional blend of range, payload capacity, and cost efficiency. Building on the strengths of the Falcon 2000 series, with close to 600 aircraft in operation globally, the 2000LXS has solidified its reputation for reliability and operational flexibility. Enhanced performance, superior fuel economy, and unmatched mission versatility make it a clear frontrunner in business aviation.

The Falcon 2000LXS cabin combines style and comfort with functionality. With 74 inches of headroom and 92 inches of width, the cabin accommodates up to ten passengers comfortably, even on flights of up to eight hours. Eighteen large windows provide ample natural light and views, while advanced soundproofing and constant air circulation create a tranquil environment, leaving passengers refreshed upon arrival.

Powered by two Pratt & Whitney Canada PW308C engines, the 2000LXS is designed for durability, low emissions, and fuel

PHOTOGRAPH: DASSAULT AVIATION



FALCON 2000LXS: PERFORMANCE

| | |
|---|-----------|
| Maximum number of passengers | 8-10 |
| Range (8 pax, NBAA IFR Reserves) | 4,000 nm |
| Cabin width | 92 in |
| Cabin height | 74 in |
| Maximum Operating Mach Number (MMO) | .86 |
| Maximum Certified Altitude | 47,000 ft |
| Takeoff Distance (Sea Level, ISA, Max Takeoff Weight) | 4,675 ft |
| Landing Distance (Unfactored, Sea Level, ISA, Typical Landing Weight) | 2,260 ft |
| Approach Speed, Vref (Typical Landing Weight) | 105 kias |

Source: Dassault Falcon

efficiency, consuming up to 20 per cent less fuel than comparable aircraft. These robust 7,000-pound thrust engines also require less maintenance, further reducing operating costs. Compatible with SAF, the 2000LXS provides an environmentally responsible choice for long-distance travel.

The Falcon 2000LXS’s advanced wing design offers outstanding performance at both low and high speeds, allowing access to challenging airports such as London City and Lugano. With leading-edge slats and optimised wing shape, the aircraft performs takeoffs from short runways and climbs directly to 41,000 feet in just 20 minutes, cruising comfortably above turbulent weather. The 2000LXS has a range of 4,000 nautical miles, enabling nonstop flights on key routes like Paris to New York and Singapore to Sydney.

Launched in 2012, the Falcon 2000LXS’s low-speed stability and high-speed efficiency translate to excellent airfield performance, making it one of the most flexible jets in its class. Its ability to depart short, high-altitude runways like those at Aspen or La Paz expands the range of accessible destinations. The aircraft can make direct flights from New York to Anchorage, Dubai to London City, and Beijing to Mumbai, operating economically on every route.

THE FALCON 8X: FLY FAR, ACHIEVE MORE

The Falcon 8X, with its impressive range of 6,450 nautical miles, is Dassault’s flagship in ultra-long-range business jets, combining efficiency, flexibility, and unmatched cabin comfort. From spacious interiors to cutting-edge flight controls, this jet is designed to deliver an exceptional flying experience that mar-



FALCON 8X: PERFORMANCE

| | |
|---|-----------|
| Maximum number of passengers | 12-16 |
| Range (8 pax, NBAA IFR Reserves) | 6,450 nm |
| Cabin width | 92 in |
| Cabin height | 74 in |
| Maximum Operating Mach Number (MMO) | .90 |
| Maximum Certified Altitude | 51,000 ft |
| Takeoff Distance (Sea Level, ISA, Max Takeoff Weight) | 5,880 ft |
| Landing Distance (Unfactored, Sea Level, ISA, Typical Landing Weight) | 2,220 ft |
| Approach Speed, Vref (Typical Landing Weight) | 107 kias |

Source: Dassault Falcon

ries technology with luxury. Developed with expertise drawn from Dassault’s fighter jet innovations, the Falcon 8X integrates advanced digital flight controls, fuel-efficient performance, and a sound-reducing cabin that exceeds expectations.

The 8X’s extended cabin, measuring 42 feet 8 inches in length, offers a high degree of personalisation. Owners can choose a three-lounge layout complete with an aft shower or opt for a larger galley and crew quarters for long-haul trips. The cabin’s generous width of 92 inches and height of 74 inches make for a comfortable, spacious environment. Natural light floods the cabin through 32 panoramic windows, enhancing views and ambiance. Side-ledge controls and a mobile app allow passengers to manage lighting, temperature, and window shades seamlessly.

With a sophisticated air filtration system and soundproofing technology, the 8X offers the quietest cabin in its class. Air quality is ten times better than standard requirements, with continuous circulation ensuring passengers arrive refreshed. The advanced DFCS integrates control of flight surfaces for optimal performance, enabling smooth, stable flights and reducing pilot workload with features like enhanced flight envelope protection.

The Falcon 8X is designed for efficiency, boasting a 15 per cent fuel savings over competitors in the ultra-long-range category. Its three Pratt & Whitney PW307D engines, each provide 6,722 pounds of thrust, the 8X meets emissions standards comfortably. Its trijet configuration, including redesigned wing architecture and winglets, further reduces drag and fuel consumption, while allowing shorter runway takeoffs, quicker climb rates, and stable approaches.

PHOTOGRAPHS: DASSAULT FALCON



FALCON 6X: PERFORMANCE

| | |
|---|-----------|
| Maximum number of passengers | 12-16 |
| Range (8 pax, NBAA IFR Reserves) | 5,500 nm |
| Cabin width | 102 in |
| Cabin height | 78 in |
| Maximum Operating Mach Number (MMO) | .90 |
| Maximum Certified Altitude | 51,000 ft |
| Takeoff Distance (Sea Level, ISA, Max Takeoff Weight) | 5,115 ft |
| Landing Distance (Unfactored, Sea Level, ISA, Typical Landing Weight) | 2,440 ft |
| Approach Speed, Vref (Typical Landing Weight) | 110 kias |

Source: Dassault Falcon



FALCON 10X: PERFORMANCE

| | |
|---|-----------|
| Maximum number of passengers | 19 |
| Range (8 pax, NBAA IFR Reserves) | 7,500 nm |
| Cabin width | 109 in |
| Cabin height | 80 in |
| Maximum Operating Mach Number (MMO) | .925 |
| Maximum Certified Altitude | 51,000 ft |
| Takeoff Distance (Sea Level, ISA, Max Takeoff Weight) | <6,000 ft |
| Landing Distance (Unfactored, Sea Level, ISA, Typical Landing Weight) | <2,500 ft |

Source: Dassault Falcon

With its ultra-long-range capability, the Falcon 8X enables non-stop flights between major city pairs, such as Beijing to New York or Hong Kong to London. The aircraft's short-field performance allows it to operate from runways as short as 3,934 feet, such as London City Airport, and high-altitude locations like Eagle, Colorado. Capable of landing at 85 per cent of its maximum takeoff weight, the 8X offers the flexibility to refuel for extended flights after shorter hops, saving time and cost on multi-leg missions. The 8X is equipped with Dassault's latest Easy IV avionics suite, featuring vivid displays and new safety features such as audible alerts to help prevent runway overruns.

Announced in 2014, the Falcon 8X brings Dassault's vision of luxurious and safe aviation to life, combining comfort with performance and efficiency.

THE FALCON 6X: A CLASS ALL ITS OWN

From concept to certification, the Falcon 6X programme has marched steadily toward its goal of entry into service in 2023. The Falcon 6X sets a new benchmark in business jet travel, offering unrivaled cabin space, safety, and performance. With its impressive 5,500 nautical mile range and maximum speed of Mach 0.90, the Falcon 6X effortlessly connects key global business centers and provides unmatched comfort and flexibility on long-haul journeys.

The Falcon 6X boasts the tallest and widest cabin in its class—measuring 78 inches in height, 102 inches in width, and spanning 40 feet 4 inches in length. Designed for productivity and relaxation, the spacious interior includes customisable configurations to suit personal needs, whether that's privacy,

collaborative workspaces, or relaxing lounges. A seamless, open layout with 30 oversized windows and a unique skylight fills the cabin with natural light, creating an airy, comfortable environment ideal for both work and leisure.

The Falcon 6X features a superior air filtration system, providing air quality ten times cleaner than standard requirements and smooth cabin pressure regulation, which helps reduce fatigue. Soundproofing technology, common across Dassault's Falcon line, ensures a quiet cabin environment. Passengers can also personalise the mood lighting to help adjust their body clocks, minimising the effects of jet lag on long journeys.

Equipped with the Pratt & Whitney PW812D engines, the Falcon 6X achieves high fuel efficiency, reduced noise, and lower emissions, aligning with modern sustainability standards. The 6X's aerodynamics, enhanced by Dassault's experience in military design, allow smooth and stable flights even on shorter runways and steep approaches, such as at London City or Lugano airports.

Its optimised wing and new flaperon control—a feature borrowed from Dassault's military jet, the Rafale—the 6X manages slower, stable approaches, which enhances safety on landings and takeoffs. This design also allows it to land at 85 per cent of its maximum takeoff weight, making it flexible for multi-leg trips without refueling. With its 5,500 nm range, the Falcon 6X can comfortably handle nonstop trips between international hubs such as Los Angeles and Geneva, São Paulo and London, or Paris and Johannesburg.

Dassault's state-of-the-art digital flight control system, precise aerodynamics, and a highly efficient engine design collectively make the Falcon 6X, launched in 2018, one of the most advanced

PHOTOGRAPHS: DASSAULT FALCON



THE FALCON 6X REDEFINES THE BUSINESS JET TRAVEL EXPERIENCE WITH ADDED COMFORT, SAFETY AND TECHNOLOGY. ITS CABIN, THE TALLEST AND WIDEST IN BUSINESS AVIATION, PROVIDES UNPARALLELED SPACIOUSNESS.

jets in its class. Its features combine for smoother flights, enhanced safety, and peak fuel efficiency, ensuring a premier experience for passengers seeking luxurious, long-range travel.

THE FALCON 10X: LARGE BUSINESS JET SEGMENT REDEFINED

The Falcon 10X's ultra-widebody design offers the largest cabin space in the industry, rivaling even some commercial jets, and provides travellers with an expansive, flexible interior that caters to both productivity and relaxation on long journeys. With a cabin that stretches 6 feet 8 inches in height and 9 feet 1 inch in width, the Falcon 10X's interior is 8 inches wider and 2 inches taller than any other purpose-built business jet. The cabin's modular design offers unparalleled customisation, allowing different zones for dining, meetings, entertainment, and rest. Travellers can enjoy amenities like a private stateroom with a queen-size bed, an in-flight-accessible baggage compartment, and even an option for a master suite with a stand-up shower.

The Falcon 10X is designed for an enhanced in-flight experience with 38 of the largest windows in its class, providing natural light and panoramic views. Dassault's advanced acoustic engineering makes the cabin exceptionally quiet, while an industry-leading filtration system keeps cabin air

pure, free of pollutants, and regulated to ideal humidity levels. Low cabin altitude reduces fatigue, ensuring passengers arrive refreshed.

Equipped with Dassault's most advanced Digital Flight Control System, originally inspired by their fighter jets, the Falcon 10X offers smooth handling and precise control, and the NeXus flight deck, with intuitive touchscreen controls, reduces pilot workload for seamless flight management.

Powered by two Rolls-Royce Pearl® 10X engines delivering over 18,000 pounds of thrust, the Falcon 10X climbs rapidly above turbulence and air traffic. These engines offer superior

fuel efficiency and lower emissions, supporting the aircraft's compatibility with SAF. The Falcon 10X's maximum range of 7,500 nautical miles enables non-stop travel between global business hubs like New York to Shanghai, Los Angeles to Sydney, and Paris to Santiago.

Launched in 2021, the Falcon 10X combines ultra-long-range capability with access to challenging airports, such as London City, thanks to its refined aerodynamics and high-aspect-ratio wings. With impressive low-speed stability and manufacturing precision, the 10X maintains the classic Falcon reputation for aerodynamic finesse and robustness. SP

The Falcon 6X's optimised wing and new flaperon control, a feature borrowed from Dassault's Rafale military jet, the 6X manages slower, stable approaches, which enhances safety on landings and takeoffs

PHOTOGRAPH: DASSAULT FALCON



DEMO LAUNCH OF SEAPLANES IN ANDRA PRADESH. THE INDIAN GOVERNMENT RELEASED NEW DIRECTORATE GENERAL OF CIVIL AVIATION (DGCA) RULES IN 2024 TO SIMPLIFY AND ENCOURAGE SEAPLANE OPERATIONS, INCLUDING RELAXED LICENSING AND COMPLIANCE NORMS

TAPPING THE UNCHARTED WATERS

Seaplane services are expected to transform regional connectivity in India, boost tourism, create jobs, and foster economic development, particularly in hard-to-reach coastal and inland regions

By SWAATI KETKAR

IF YOU LOOK AT INDIA'S TOPOGRAPHICAL MAP, YOU WILL realise that India has a long coastal line of thousands of kilometres stretching across nine states and four union territories namely - Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Odisha, and West Bengal and Union Territories - Daman and Diu, Puducherry, Lakshadweep Islands, and Andaman and Nicobar Islands.

In order to give a final push to the seaplane service, the government in August 2024 released new Directorate General of

Civil Aviation (DGCA) rules for seaplanes allowing non-scheduled operators to provide such services. The rules were simplified with the aim to encourage seaplane operations under the regional air connectivity scheme UDAN (Ude Desh ka Aam Nagrik).

A BRIEF HISTORY OF SEAPLANE SERVICE IN INDIA

Looking at this huge opportunity, SpiceJet along with Government of Gujarat introduced a seaplane service in October 2020 from Ahmedabad to a famous tourist spot about 200 kilometers

PHOTOGRAPH: YOGESH GARG, DE HAVILLAND OF CANADA



TRIAL RUN OF THE FIRST EVER SEAPLANE SERVICE IN ANDHRA PRADESH, AS CHANDRABABU NAIDU WAS KEEN ON STARTING THE SERVICE IMMEDIATELY

away – ‘Kevadia’- home to the new ‘Statue of Unity’ of Former Deputy Prime Minister Sardar Patel.

The new service was inaugurated by Prime Minister Narendra Modi, who joined the first flight and took the 50-minute ride from Kevadia to the Sabarmati Riverfront in Ahmedabad. Just as the first flight took off, it was clear that the service was headed for rough waters. It was found that SpiceJet did not have the necessary environmental clearances related to the construction of water aerodromes in both cities. Apart from the regulatory issues, there were serious maintenance issues with the aircraft in operation.

SpiceJet leased a 15-seat De Havilland Twin Otter 300 from Maldivian. However, the 52-year-old aircraft required frequent maintenance leading to constant suspension of service. In fact, in the first four months of operation, the aircraft was sent back to Maldives for week-long overhaul, leading to mounting losses for the operator.

Finally, in 2021, SpiceJet discontinued the seaplane service citing operational reasons. In over a year and a half, just 276 flights took off carrying a mere 2,192 passengers. In February 2022, the Government floated another tender for seaplane service. The tender was awarded to Maritime Energy Heli Air Services (MEHAIR). The Government was slightly sure of success this time round due to MEHAIR’s prior experience with seaplane services, having served the Andaman and Nicobar Islands for over a decade with a fleet of

Cessna Grand Caravans. Besides the aircraft maintenance work could be carried out at Ahmedabad MRO instead of sending the aircraft to Maldives.

The year-2022 went by without any action...Experts felt that somewhere along the way the deal broke-off. The Government still hopeful of a launch floated a new tender in May 2023 but it didn’t have many takers, due to obvious reasons.

The government waited and waited, it was just a matter of time now for the investors to get the business model right, and it did. But this time the government was prepared. “There is no deadline pressure. We want to ensure that everything is in place before the services resume,” said Captain Ajay Chauhan, director of civil aviation, Gujarat.

The adoption of Non-Scheduled Operator Permit (NSOP) framework and reduced infrastructure requirements have made seaplane operations more feasible, paving the way for India to explore 60-100 seaplane routes over the next five years

GOVERNMENT RELAXED NORMS INVITE FRESH BIDS

Under UDAN 5.4, the government invited fresh bids for routes that were cancelled for some reason or the other, to provide connectivity on unserved routes. The Minister of Civil Aviation also announced that the demonstration flights of the seaplane by manufacturer De Havilland would be held shortly, giving a new lease of life to seaplane operations in the country.

As per the new norms:

- non-scheduled entities would be allowed to operate such services and with a simplified certificate process.
- there will be no need for a water-drome license and compliance requirements have also been reduced.

PHOTOGRAPH: YOGESH GARG, DE HAVILLAND OF CANADA



(LEFT) WATER-BASED AVIATION HAS TAKEN OFF IN ANDHRA PRADESH; (RIGHT) SEAPLANE LANDING AT ANDAMAN & NICOBAR.

- fresh Commercial Pilot License (CPL) holders can now directly obtain seaplane ratings that will allow them to fly seaplanes.

The adoption of Non-Scheduled Operator Permit (NSOP) framework for seaplanes was considered as a significant step forward in the Government's commitment to enhancing regional connectivity. Earlier in June, the DGCA revised norms to streamline infrastructure procedures, pilot training requirements, and regulatory compliances, paving the way for seaplane services to reach remote areas. The revised regulations incorporated easier training requirements and simplified processes for seaplane operations.

The government released these guidelines not only integrate seaplane operations into India's aviation landscape for transportation but also create jobs and foster economic empowerment, making seaplanes a symbol of the country's growth, innovation, and commitment to inclusive development.

The government had an ambitious vision to set up water aerodromes at 18 places spread across Andaman & Nicobar, Lakshadweep, Goa, Assam, Andhra Pradesh and Himachal Pradesh.

And just like that the date was set for trial run. The trial run of the first ever seaplane service in the Andhra Pradesh was to be conducted as Chief Minister N. Chandrababu Naidu was keen on starting the service immediately and necessary permissions from the Centre have been cleared.

Recent trial runs for seaplane services in Andhra Pradesh, Kerala, Lakshadweep, and Meghalaya highlighted the potential for drastically reduced travel times and enhanced connectivity to remote and scenic destinations

THE MAGICAL SEAPLANE DAYS

Among potential seaplane sites, the Airports Authority of India (AAI) identified the Prakasam Barrage as a prime location along with eight other scenic destinations for potential service routes, including Araku, Lambasingi, Rushikonda, Kakinada, Konaseema, Srisailam, and Tirupati. These sites were chosen for their cultural significance and natural beauty with the hope to enhance travel experiences and boost the influx of domestic and international tourist.

The seaplane made its inaugural journey from the Prakasam Barrage in Vijayawada, landing safely in the waters of the reservoir before proceeding to the Srisailam Tourism Boating Team. The trial run was overseen by a team of officials, including representatives from the National Disaster Response Force (NDRF), Police, Tourism Department, and the Air Force, ensuring all safety measures were in place.

A Day after the after the successful trial run, Andhra Pradesh CM, N. Chandrababu Naidu launched a demonstration flight of a seaplane service. The Chief Minister along with Union Civil Aviation Minister K. Ram Mohan Naidu and Yogesh Garg of De Havilland, Ajay Singh and Avani Singh of SpiceJet along with other officials' journey were onboard the first seaplane to the temple town of Srisailam.

Speaking during the launch, CM Naidu emphasised that the introduction of seaplane services would be an innovative opportunity to promote economic activities to create employment. He further went on to highlight that Prime

PHOTOGRAPHS: NCBN / X. YOGESH GARG, DE HAVILLAND OF CANADA



SEAPLANE DEMO FLIGHT IN MEGHALAYA

Minister Narendra Modi also came forward to promote seaplane operations in the southern state, which does not require the expensive infrastructure needed for a regular airport. With this launch, MoCA Naidu said that a new chapter is being opened in Andhra Pradesh, adding that seaplane operations will not only change the future of the state but also India.

The Andhra Pradesh government intends to position the state as a leader in India's water-based aviation industry by launching seaplane services. Thus began the seaplane week in India. One of the names orchestrating this complete module was the Regional Vice President, Sales, Asia-Pacific and Middle East at De Havilland Aircraft of Canada, Yogesh Garg. He hopped from one destination to other the entire week ensuring smooth operations. Sharing his feeling of profound pride after the first take-off Garg said: "Seeing the dignitaries experience the seaplane firsthand was a proud moment, and a powerful reminder of how this initiative can open new doors for development, tourism, and connectivity to Srisailem's heritage."

If you go by road, the journey from Prakasam Barrage to Srisailem Barrage takes eight hours but a seaplane will help you reach your destination in 45 to 50 minutes, that's the magic of seaplanes and remote connectivity.

The second demo flight was conducted in Kerala on November 11, 2024 from Kochi Marina to Madupetty Dam, soaring up to reach one of Kerala's highest and most scenic dams at 5,600 feet. It takes around three hours from the Cochin International Airport and 3.5 hours from the Ernakulam railway station to reach Munnar by road. Once the seaplane is in operation, the travel time of over four hours will be down to 25 short and hassle-free minutes.

The third demo flight took off on November 12, 2024 from Agatti in Lakshadweep to Minicoy Island, the journey that currently takes an entire day, was shortened to just one hour with a seaplane! The Twin Otter's unique capability to operate in

challenging weather conditions signalled a new era of seamless connectivity and accessibility for these islands.

A demo of the seaplane was launched from the beautiful Umiam lake on November 11, 2024. For a seaplane to land and take-off it takes 200 metres of water body and five metres of depth and with the terrain and landscape of Meghalaya this will be conducive as water bodies can be created as there is plenty of rainfall. Plus, it would be extremely cost-effective as it would take around ₹15 lakh to build a dam for landing rather than building a runway for an airport.

From Meghalaya the demo flights continued to explore other unchartered waters in North East like the majestic Brahmaputra River in Guwahati, cutting down the travel time from Shillong to Guwahati Airport to just 15 minutes. The final demo flight was conducted at the picturesque Andaman and Nicobar Islands promising gorgeous views, faster travel, and better connectivity to hard-to-reach places in the Islands.

Just as the demo flights concluded, Flybig announced their plans to start the first-ever seaplane services in the Islands by deploying De Havilland's Twin Otter. Apart from the planned routes Flybig plans to add more routes and destinations within the Andamans to its future roster.

SPICEJET'S AMBITIOUS PLANS TO TAP THE UNCHARTED WATERS

Apart from Flybig, SpiceJet has partnered with De Havilland to launch seaplane operations in 2025 connecting India's most remote locations. The airline will provide essential engineering, technical, and logistical assistance for these services. The 20 routes on which seaplane operations will be launched include Lakshadweep, Hyderabad, Guwahati, and Shillong.

Explaining the potential of seaplanes to revolutionise regional connectivity in India, Ajay Singh, Chairman and Managing Director, SpiceJet said: "Seaplanes could make remote

PHOTOGRAPH: YOGESH GARG, DE HAVILLAND OF CANADA



SPICEJET PLANS TO USE SEAPLANES TO MAKE REMOTE PARTS OF INDIA MORE ACCESSIBLE, HELPING TO BRIDGE GAPS IN INFRASTRUCTURE AND TRANSPORTATION

and beautiful parts of India more accessible, helping to bridge gaps in infrastructure and transportation.”

Sharing her excitement about the seaplane project, Avani Singh, the Chief Executive of Spice Shuttle, SpiceJet’s seaplane division said: “SpiceJet’s goal in regional connectivity has been to make air travel affordable and accessible to everyone, no matter how remote their location.”

Singh believes that seaplanes are a gamechanger for India geographic diversity—such as coastlines, rivers, and islands—can make building traditional infrastructure difficult. Seaplanes can overcome these challenges by connecting coastal areas, islands, and remote inland regions, bringing the benefits of air travel to these previously hard-to-reach destinations. The airline plans to officially launch its new seaplane services in 2025.

WHY IS SEAPLANE A FEASIBLE ALTERNATIVE TO COMMERCIAL AIR TRAVEL & HELICOPTERS?

The seaplanes have come at a time when tourism players have been stressing the need to reduce travel time and Indian aviation market is at its all-time peak. However, unlike traditional airports, water aerodromes require limited infrastructure and construction time, making them efficient and cost-effective solutions for regional connectivity. The government aims to finalise passenger fares following a feasibility study, with full service expected to launch within three months. This venture is structured as a Public-Private Partnership (PPP) to maintain affordability for travellers.

Apart from the time and money saving option for passengers, seaplane operations will give socio-economic boost to the entire region while promoting the tourism industry of the country. Seaplane services are expected to create jobs within aviation and related sectors, driving industrial growth and

strengthening the state economy. By drawing more passenger traffic and broadening tourism’s footprint, the initiative has the potential to spur local development.

Some of the most obvious advantages of Seaplanes are a significant reduction in travel time and travel cost to remote locations. No motion-sickness due to long and arduous ferry rides. Plus, an added advantage of robust aircraft performance even in rough waters and adverse weather, ensuring reliable operations year-round.

THE FORECAST FOR SEAPLANE OPS AND FUTURE OF TWIN-OTTER IN INDIA

Just as the seaplane demo concluded earlier this month, Yogesh Garg of De Havilland goes on to predict significant growth potential for its DHC-6 Twin Otter aircraft in India. “We expect to see at least 8-10 seaplanes deployed within the next 8-12 months,” Garg said.

The plane costs nearly ₹60 crore per unit. However, it is expected to be deployed under the leasing model. De Havilland’s forecasts a requirement of at least 30-40 seaplanes in India over the next five years and expected to increase to about 60-70 aircraft over the next decade. He also forecasted the creation of 60-100 seaplane routes over the next five years, leading to the development of nearly 30 waterdromes signalling a strong future of seaplane connectivity in India. Currently, there are around 30 seaplane routes in India under the central government’s air regional connectivity Udan scheme.

Seaplane operations are paving the way for a new era of regional connectivity that is innovative, efficient, and sustainable. All-in-all, a seaplane solution can truly transform lives in India by improving connectivity, boosting tourism, and fostering economic development opening new horizons for remote, unchartered waters. 



SPICEJET HAS RESOLVED A SIGNIFICANT DISPUTE WITH CANADIAN AIRCRAFT MANUFACTURER BOMBARDIER THROUGH A \$90 MILLION SETTLEMENT, ENDING A PROLONGED LEGAL BATTLE OVER Q400 TURBOPROP PLANES

SPICEJET'S \$90 MILLION DEAL WITH CANADIAN Q400 PLANES

SpiceJet has successfully resolved a significant dispute with Bombardier over a fleet of Q400 turboprop planes in the form of a \$90 million settlement, marking the end of a prolonged legal battle that also has broader implications for the Indian aviation sector

By MANISH KUMAR JHA

SPICEJET, INDIA'S PROMINENT LOW-COST AIRLINE, HAS successfully resolved a significant dispute with Canadian aircraft manufacturer Bombardier over a fleet of Q400 turboprop planes. The resolution comes in the form of a \$90 million settlement, marking the end of a prolonged legal battle and financial tension between the two parties. This deal is particularly notable because it involves the acquisition of 13 Q400 aircraft, a key component of SpiceJet's regional flight network.

According to the airline, the settlement will save SpiceJet \$68.3 million in operational costs. On the final settlement and

after the prolonged resolution, SpiceJet Managing Director Ajay Singh called the settlement a "major financial milestone". He said the resolution would allow SpiceJet to move forward with a strengthened balance sheet and focus on the Q400 aircraft back into service as quickly as possible.

BACKGROUND OF THE DISPUTE

The roots of the dispute date back to a 2017 agreement between SpiceJet and Bombardier. Under the terms of this agreement, SpiceJet placed an order for up to 50 Q400 turboprop aircraft,

PHOTOGRAPHS: BOMBARDIER



THE Q400 PLANES ARE CENTRAL TO SPICEJET'S STRATEGY OF STRENGTHENING CONNECTIVITY BETWEEN INDIA'S UNDERSERVED TIER-2 AND TIER-3 CITIES, LEVERAGING THEIR FUEL EFFICIENCY AND SUITABILITY FOR REGIONAL AIRPORTS

with the intention of expanding its regional operations across India. The Q400 aircraft, known for their fuel efficiency and ability to operate in smaller, regional airports, were seen as a perfect fit for the airline's expansion plans.

However, the deal quickly ran into complications. SpiceJet faced challenges related to delivery delays, technical issues with some of the aircraft, and concerns over the terms of the purchase agreement. These issues led to the airline and the manufacturer entering a prolonged dispute over the contract, with SpiceJet questioning the quality and the terms surrounding the fleet of Q400s. At one point, the airline sought to cancel or renegotiate the terms, citing the failures and non-compliance with certain delivery schedules.

THE LEGAL BATTLE

As the dispute escalated, it eventually ended up in the courts, with both parties seeking legal recourse to protect their interests. SpiceJet accused Bombardier of failing to deliver the aircraft as agreed upon, while Bombardier, on the other hand, sought to enforce the contract and hold SpiceJet to its financial obligations.

The case drew significant attention, not only because of the high stakes involved but also due to the broader implications it had for the aviation industry. SpiceJet, one of the largest low-cost carriers in India, relied heavily on its fleet of regional aircraft to service a rapidly growing domestic market, while Bombardier's Q400 aircraft were a key part of its strategy to maintain a competitive edge in the regional turboprop market.

THE \$90 MILLION SETTLEMENT

After several years of back-and-forth legal wrangling, the dispute was finally resolved with a \$90 million settlement. Under the terms of the agreement, SpiceJet agreed to acquire 13 Q400 aircraft from Bombardier, while the manufacturer agreed

to settle outstanding claims and provide certain concessions regarding aircraft delivery and performance.

The settlement represents a significant victory for both parties, albeit in different ways. SpiceJet successfully avoided the financial and operational burden of a prolonged legal battle, while securing the 13 aircraft that are critical for its expanding regional network. On the other hand, Bombardier, which has since sold its regional aircraft business to Longview Aviation Capital in 2019, was able to resolve the dispute and close the chapter on this contentious deal.

STRATEGIC IMPORTANCE FOR SPICEJET

For SpiceJet, the acquisition of the 13 Q400 planes is a critical component of its strategy to further strengthen its position in the Indian aviation market. India's regional aviation market has been experiencing significant growth in recent years, driven by increasing air travel demand, government support for regional connectivity, and the rising popularity of smaller, more affordable aircraft for shorter routes.

The Q400 planes, known for their ability to operate on short regional routes with limited infrastructure, fit seamlessly into SpiceJet's plans to service underserved and smaller airports across India. The airline has made a concerted effort to improve connectivity between tier-2 and tier-3 cities, and the Q400 aircraft will play an important role in meeting this growing demand.

IMPLICATIONS FOR THE INDIAN AVIATION SECTOR

This deal and its resolution also have broader implications for the Indian aviation sector. India's aviation industry has experienced significant growth in the past 10 years. India is the third-largest domestic aviation market and the aviation sector in India has shown substantial growth, with a 15 per cent increase annually. In total, air passengers handled at



THE SETTLEMENT ENABLES SPICEJET TO ACQUIRE 13 Q400 AIRCRAFT, CRITICAL FOR ITS REGIONAL FLIGHT NETWORK, WHILE SAVING \$68.3 MILLION IN OPERATIONAL COSTS

Indian airports reached 37.6 crore in FY24. The number of operational airports in the country has doubled from 74 in 2014 to 157 in 2024 and the aim is to increase this number to 350-400 by 2047. Domestic air passengers have more than doubled in the past decade, with Indian airlines significantly expanding their fleets.

The government's policies and initiatives in such line have prioritised the sector which was under the scanner for the massive potential and scope for connectivity. One such initiative is the Regional Connectivity Scheme – Ude Desh ka Aam Nagrik (RCS-UDAN) launched in 2016, which aims to provide connectivity to unserved and underserved airports of the country through the revival of the existing airstrips and airports.

The Indian government has heavily invested in improving regional air connectivity through the UDAN scheme, which aims to make air travel affordable and accessible to a wider population. The settlement and the aircraft acquisition align with these goals by enabling SpiceJet to offer more services to underserved regions, stimulating regional economic growth, and providing more affordable travel options.

So far, under the scheme, 83 RCS routes have commenced operations connecting 86 airports including 13 heliports & 2 water aerodromes. According to the Ministry of Civil Aviation (MoCA), more than 1.43 crore passengers have availed of the benefits of

the scheme and more than 2.8 lakh flights have operated under the UDAN scheme so far. Under the scheme, ₹4,500 crores have been allocated for the development of airports in the country under the Scheme, out of which ₹3,751 crores have been utilised since its inception.

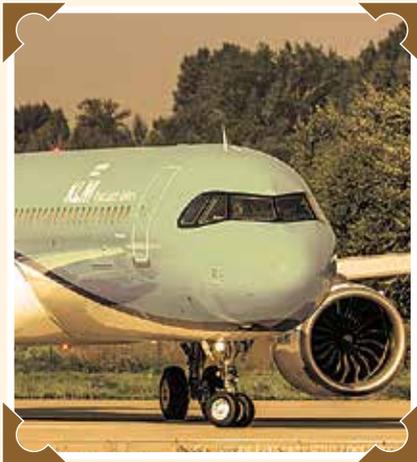
Additionally, the settlement signals a broader trend in the aviation industry, the increasing importance of regional fleets to airlines that are looking to expand their domestic networks without incurring the massive costs of larger jets. For Bombardier, the successful resolution of the dispute ensures it can maintain its foothold in the regional aircraft market, especially as the global aviation landscape continues to evolve.

The resolution of SpiceJet's dispute with Bombardier over the 13 Q400 aircraft is a significant moment for both the airline and the broader aviation industry. The \$90 million settlement brings closure to a contentious legal battle and sets the stage for SpiceJet to enhance its regional network in India. This deal not only benefits SpiceJet's growth ambitions but also underscores the importance of regional aircraft in the ever-expanding aviation sector in India. As SpiceJet moves forward with its fleet expansion, it remains to be seen how the airline will continue to shape the future of air travel in India, particularly in terms of regional connectivity and service expansion. [SP](#)



“The resolution would allow SpiceJet to move forward with a strengthened balance sheet and focus on the Q400 aircraft back into service as quickly as possible”

**— Ajay Singh,
Managing Director,
Spicejet**



KLM: THE WORLD'S OLDEST AIRLINE STILL GOING STRONG!

In 1930, KLM began scheduled passenger service between Amsterdam and Jakarta. The Fokker F.XII plane took 10 days to reach, including 81 hours of flying time. It was the world's longest scheduled flight before the Second World War.

THE FIRST POWERED FLIGHT OF A HEAVIER-THAN-AIR AIRCRAFT

occurred on December 17, 1903, when Orville Wright piloted the Wright Flyer at Kill Devil Hills near Kitty Hawk, North Carolina. Six years later, on November 16, 1909, the world's first airline to use an aircraft in revenue service was established. However DELAG, based in Frankfurt, did not operate fixed-wing aircraft, but a fleet of zeppelin rigid airships. It ceased operations within 30 years. The first scheduled airline to use a fixed-wing aircraft was the St Petersburg–Tampa Airboat Line. It commenced service on January 1, 1914, between St Petersburg, Florida, and Tampa, across Tampa Bay, a distance of just 37 km, with a Benoist XIV biplane. However, the airline folded up in five months. KLM, which stands for Koninklijke Luchtvaart Maatschappij voor Nederland en Koloniën (“Royal Dutch Airlines”) was established in 1919, and holds the distinction of being the world's oldest airline still in service.

Soon after World War I ended, many European countries used surplus military planes to launch commercial operations. In the Netherlands, it was an aviation exhibition organised by aviator Albert Plesman in August 1919 that started it all. The exhibition attracted more than half a million visitors and generated a tidal wave of enthusiasm for aviation. On October 7, 1919, a group of eight Dutch investors and bankers led by 30-year old Plesman, got together and founded KLM. Even earlier, in September 1919, Queen Wilhelmina awarded the airline its “Royal” title. Naturally, Albert Plesman became the carrier's first administrator.

Flight operations were launched on May 17, 1920, on a modest scale. Only one old De Havilland DH-16 aircraft chartered from a British company flew on the Amsterdam–London route. However, by 1921, KLM introduced the four-seater Fokker F.II and the five-passenger Fokker F.III. A series of cooperative agreements with other airlines helped the fledgling airline gradually expand its routes. KLM quickly gained a reputation among European carriers for punctuality and impeccable service. In July 1924, the airline began operating the new Fokker F.VII aircraft that could carry up to seven passengers in relative comfort.

Plesman was a visionary and strict leader who remained at the helm for the first three decades of KLM's history. Under his leadership KLM improved its fleet year by year with larger, faster, and better aircraft. In fact, KLM was better placed than other European airlines for purchasing new aircraft, since the Dutch company Fokker produced some of the most popular

passenger planes of the period, such as the Fokker F.VIIA-3m and F.VIIB-3m. The Dutch Government did its bit for the country's flag carrier. If not for a government bailout in 1927, when many European airlines were perishing, KLM would have gone bankrupt. The prominent state role has continued to this day. Even during the financial turmoil of the COVID-19 pandemic, the Dutch Government provided a timely aid package.

Plesman's quest for speed and modernity continued in the 1930s. Since the Fokker offerings of the early 1930s, such as the Fokker F.XX and the F.XXXVI, were limited to top speeds of about 200 km/h Plesman got in touch with the Douglas Aircraft Company in the United States for 14 DC-2s, thus helping Douglas enter the European market.

In 1930, KLM began scheduled passenger service between Amsterdam and Batavia (now Jakarta). The Fokker F.XII plane, with a capacity of 16 passengers, took 10 days to reach, including 81 hours of flying time. It was the world's longest scheduled flight before the Second World War.

Soon after World War II commenced, the Nazis occupied the Netherlands. Despite attempts to sustain regular services, KLM had to cease all European operations in May 1940. Yet flights in East Asia continued unabated. That is why KLM is also the world's longest continuously operating airline. As the war neared its end, KLM resumed its European and overseas operations. It was helped by a loan of 14 Douglas C-54 four-engine transports (the military version of the DC-4) from the US government. In 1946, KLM became the first airline to operate scheduled services to New York from mainland Europe. In March 1960, the airline entered the jet age, introducing the first Douglas DC-8 jet into its fleet. In 1971, with the arrival of the Boeing 747, KLM launched widebody operations.

KLM merged with Air France on May 5, 2004, in a €800m deal. However, the two carriers retained their own branding and individuality. In 2023, KLM and Air France jointly announced their intention to invest extensively in fleet renewal. As of November 2024, KLM has a fleet of 111 aircraft with another 146 on order. The airline has begun receiving Airbus A321neo aircraft, with new Airbus A350 aircraft also due in over the next few years. Albert Plesman's vision for KLM of operating the fastest and most advanced aircraft thus continues undimmed. SP

— JOSEPH NORONHA

MILITARY

DEFENCE MINISTER ADDRESSES AIR FORCE COMMANDERS' CONFERENCE



Defence Minister Rajnath Singh, addressed the Air Force Commanders' Conference (AFCC) at Air Headquarters in New Delhi. The conference was attended by Chief of Defence Staff (CDS), General Anil Chauhan, Defence Secretary Rajesh Kumar Singh, Secretary (DDR&D) and Chairman DRDO Dr Samir V. Kamat, Secretary (Defence Production) Sanjay Kumar and senior commanders of the Indian Air Force (IAF).

Addressing the gathering, Rajnath Singh commended the force for its dedication and professionalism in safeguarding the nation's sovereignty. He expressed confidence in the IAF's ability to adapt to evolving challenges, and exhorted Commanders and senior officials of the MoD to look at means to make the process of capability and capacity building more efficient and effective, in keeping with our national aims and aspirations.

MILESTONE IN AIR INTEROPERABILITY WITH INDIA



Australia and India have signed an arrangement to enable the Royal Australian Air Force (RAAF) and the Indian Armed Forces to conduct air-to-air refuelling.

Australia's Minister for Defence Industry and Capability Delivery Pat Conroy, and India's Minister for Defence Rajnath Singh announced the arrangement during bilateral discussions on November 21, 2024.

Under the arrangement, RAAF's air-to-air refuelling aircraft, the KC-30A Multi-Role Tanker Transport, will be able to refuel Indian Armed Forces aircraft.

APPOINTMENTS



BOMBARDIER APPOINTS CAROLINE MASO AS CHRO

Bombardier announced the appointment of Caroline Maso as Chief Human Resources Officer. Maso will report directly to Éric Martel, President and CEO of Bombardier and, effective early in the new year, will lead Bombardier's worldwide Human Resources practice with a focus on ensuring Bombardier is a best-in-class employer in every country the company operates.



ST ENGINEERING ANTICIP WELCOMES BENOIT ROLLAND AS NEW CEO

ST Engineering Antycip (Antycip) announced the appointment of Benoit Rolland as its new CEO, effective March 1, 2025. Benoit Rolland joins Antycip with over 25 years of experience in the simulation industry and a strong connection to Antycip, having previously served in a leadership role with the company. He possesses a deep understanding of the market, customers, and the technological advancements that drive the industry forward.

DRDO HANDS OVER P-7 PARACHUTE SYSTEM TO DGQA



The Authority Holding Sealed Particulars (AHSP) of P-7 Parachute System has been handed over to the Directorate General of Quality Assurance (DGQA) by the Aerial Delivery Research and Development Establishment (ADRDE), Agra, a DRDO laboratory. ADRDE has successfully designed, developed and qualified the P-7 Parachute System. Gliders India Limited (Ordnance Parachute Factory), Kanpur has fabricated the parachute system, which is capable of safely dropping payloads of up to 9.5 tonne from IL-76 Aircraft at an altitude of up to four kms.

ROMANIA BECOMES THE 20TH MEMBER OF THE F-35 GLOBAL ALLIANCE

The Government of Romania confirmed its intent to procure 32 Lockheed Martin 5th Generation F-35 Lightning II aircraft by signing a Letter of Offer and Acceptance (LOA) through a US government Foreign Military Sale. This decision marks a significant milestone in Romania's defence strategy and its commitment to maintaining a robust and advanced military force.

The F-35 offers the most cost-effective solution for Romania, combining unprecedented operational capability with an affordable and efficient global sustainment network. The Romania Air Force's F-35s will integrate seamlessly with existing F-16 fleets, enhancing the unique, powerful capabilities of each aircraft and establishing a fortified defence profile.

FIRST GLOBAL 6500 FOR THE US ARMY'S HADES PROGRAMME



Bombardier Defense delivered the first Bombardier Global 6500 aircraft to the United States Army in support of the High Accuracy Detection and Exploitation System (HADES) programme. Bolstered by the Global 6500's high-performance capabilities, the fixed-wing platform will contribute to strengthening the US Army's aerial deep sensing abilities and marks a significant milestone toward the United States' goal of modernising its aerial military intelligence.

15 ADDITIONAL KC-46A TANKERS FOR USAF
Boeing will build 15 additional KC-46A Pegasus tankers under a Lot 11 contract award from the US Air Force valued



at \$2.38 billion. In all, Boeing has 168 KC-46A multi-mission aerial refuelers on contract globally, providing advanced capability advantages for the joint force and allies.

In July, the Air Force awarded Boeing a contract to upgrade the mission readiness and performance of the KC-46A tanker. This builds on the 2023 Block 1 upgrade, further enhancing the tanker's advanced communications, data connectivity and situational awareness for aircraft survivability and operational advantage in contested environments. Since 2019, Boeing has delivered 89 KC-46As to the US Air Force and four to the Japan Air Self-Defense Force.

ROYAL CANADIAN AIR FORCE TO USE PC-21 NEXT GENERATION TRAINERS



Pilatus announced the successful conclusion of a major contract with KF Aerospace as part of its collaboration with SkyAllyne for the Royal Canadian Air Force's (RCAF) "Future Aircrew Training" (FAcT) programme. The contract involves the delivery of nineteen state-of-the-art PC-21 training aircraft. The nineteen PC-21s will be stationed at the air force base in Moose Jaw, Saskatchewan, from 2026. They will primarily be used to provide advanced training for aspiring military pilots. The 25-year FAcT programme is designed to fundamentally modernise and expand the RCAF training capabilities.

GA-ASI COMPLETES FINAL QUALIFICATION TEST FOR HFE 2.0 ENGINE



General Atomics Aeronautical Systems, Inc. (GA-ASI), has completed its final

qualification test for its new 200-horsepower heavy fuel engine at its El Mirage, California, flight facility. The Heavy Fuel Engine (HFE) 2.0 is a highly reliable low-maintenance engine with a 40 per cent increase in service life providing longer maintenance-free operational periods. The engine will provide the horsepower and electrical power required to meet the demanding performance needs of the new Gray Eagle 25M for Multi-Domain Operations (MDO).

GE AEROSPACE DEMONSTRATES HYBRID ELECTRIC PROPULSION SYSTEM

AutoFlight, a leading innovator in electric vertical take-off and landing (eVTOL) technology, has marked a significant milestone with its first successful flight in Japan. On November 29, the company's two-ton eVTOL aircraft completed its inaugural demonstration flight in Okayama Prefecture.

The historic eVTOL flight was conducted in collaboration with MASC, a Japanese non-profit organization dedicated to aerospace industry advancement. The successful demonstration paves the way for future test flights across multiple Japanese cities, accelerating the path toward commercial Advanced Air Mobility (AAM) operations in Japan. This initiative aligns with the country's vision for next-generation urban air transportation.

ELECTRA SHOWCASES HYBRID ELECTRIC AIRCRAFT



Electra has completed another military flight demonstration of its hybrid-electric prototype aircraft. The demonstration flights were part of the Thunderstorm 24-4 "Expeditionary Operations" technology showcase sponsored by the Office of the Under Secretary of Defence for Research and Engineering (OUSDR&E) in early November. An invitation-only field technology showcase, Thunderstorm 24-4 highlighted Electra's unique dual-use technologies that support distributed operations of military forces in contested areas.

During the three-day event, Electra's EL2 prototype aircraft conducted live overflights, offering hundreds of DoD attendees from all branches and venture capital investors a firsthand experience of its low acoustic signature. The EL2 demonstration showcased the aircraft's ultra-quiet all-electric mode compared with a conventional aircraft.

CIVIL

PILATUS PC-12 WAS LAST YEAR'S MOST FLOWN BUSINESS AIRCRAFT IN THE USA



The Swiss-Made PC-12 was last year's most frequently flown business aircraft in the USA. Specifically, 3,16,328 take-offs by the "World's Greatest Single" were recorded between August 2023 and July 2024, representing 8.8 percent of all departures. Once again, this single-engine turboprop impresses with its versatility, safety, reliability and efficiency.

Statistically, a good 70 of the world's global fleet of over 2,000 PC-12s are in the air at any given time. In 2023 alone, Pilatus produced 101 PC-12s in the heart of Switzerland for delivery all over the world, including 48 for customers in the USA. The international PC-12 fleet has now completed well over ten million hours in the air and is used for a wide range of missions – including business travel, cargo transport, air ambulance and emergency services.

SUSTAINABLE MATERIALS FOR THE PILATUS PC-24 CABIN INTERIOR



Pilatus is committed to sustainability – as demonstrated by the use of environmentally friendly materials in the cabin

interior of the PC-24, including natural oils instead of synthetic varnishes.

Most of the fabrics used by Pilatus in today's luxurious interiors are made from special fibres. They are easy to clean and they keep their shape after washing. The washing process requires substantially less water and detergent, while fast drying uses less energy as well. Additionally, the material can be recycled. The carpeting, which is made entirely from natural wool, is another example. As a renewable and biodegradable fibre, pure new wool is one of the world's cleanest and most environmentally-friendly flooring materials. For its most environmentally-conscious clients, Pilatus offers a collection of carpets made without any artificial dyes at all.

Pilatus aircraft are already certified to use sustainable aviation fuel (SAF), which is currently produced primarily from biomass or waste materials. Aiming to accelerate the scaling of solar fuels in aviation, Pilatus and Synhelion announced the start of their strategic partnership in summer 2024. Under the purchase agreement, Pilatus has committed to buying 200 tons of solar fuel every year for five years, effective from 2027. Pilatus plans to use the solar-derived fuel in its own fleet and intends to offer it to PC-12 and PC-24 customers at a later date.

PILATUS RECEIVES PRESTIGIOUS LIVING LEGENDS OF AVIATION AWARD



Together with other members of the management representing the Pilatus Team, Markus Bucher, CEO of Pilatus, accepted an award for notable achievement in aviation at the "Living Legends of Aviation Europe Awards". For the fourth time, the "Oscars of Aviation" were presented as part of the "Living Legends of Aviation Europe Awards" at the spectacular Scalaria Event Resort on Lake Wolfgang, Austria. In this special setting, Markus Bucher and the Pilatus Team accepted the "Sam B. Williams Technology Award" for the company's untiring efforts to produce unique, world-class aircraft. At the ceremony,

Pilatus was honoured with a video depicting the company's achievements.

EMBRAER LAUNCHES ONECHAIN PROGRAMME



Embraer has finalised the implementation of the ONEChain Program, an initiative to support the Company growth's strategy that leverages digital transformation to help improve the management of its supply chain. The ONEChain platform was designed to simplify and digitalise supply chain operations by fostering greater transparency, agility, and collaboration through an integrated process that benefits both Embraer and its suppliers worldwide.

By adopting and disseminating the best practices in the market, ONEChain has enabled the company to improve governance, standardize processes, reduce costs and expenses, increase competitiveness, agility, and productivity, as well as to digitise and unify a large part of the supply chain processes in an innovative way.

The program has been implemented in Brazil and countries where Embraer operates: the United States, China, Singapore, as well as France, the Netherlands and Portugal.

EMBRAER AND INDONESIA'S PTDI SIGN MOU

Embraer and PT Dirgantara Indonesia, Indonesia's leading aerospace company, have signed a Memorandum of Understanding (MoU) aimed at growing collaboration in commercial aviation. The MoU was signed at the Indonesia-Brazil CEO Forum, chaired by Indonesian President Prabowo Subianto, on the sidelines of the G20 Summit in Brazil.

Embraer and PTDI will conduct joint studies to evaluate partnership opportunities in commercial aviation, in areas such as engineering and the supply of aerostructures. The collaboration framework will be guided by rigorous commercial and technical standards, ensuring alignment with industry best practices and business objectives. Both companies are committed to exploring opportunities that create mutual value while maintaining the highest quality and performance standards in aerospace manufacturing.

This agreement represents a significant step in advancing aerospace collaboration between Brazil and Indonesia, fostering technological innovation and industrial partnerships across emerging economies.

AIR CARGO TRAFFIC TO DOUBLE BY 2043

With a strong air cargo market exceeding pre-pandemic levels, Boeing forecasts continued long-term growth, saying air cargo traffic will increase by an average of four per cent per year through 2043. These projections appear in Boeing's 2024 World Air Cargo Forecast (WACF), the biennial overview and long-term outlook for the air cargo industry.

- The global air cargo fleet is forecast to rise to 3,900 airplanes by 2043, a two-thirds increase from 2,340 freighters in 2023.
- Driven by demand in high-growth Asian markets, the large widebody freighter fleet will nearly double.
- Nearly half of production and conversion deliveries will replace retiring freighters with more capable and fuel-efficient models.
- East and South Asian markets will see the highest traffic growth per year, driven by expanding economies and consumer demand.
- With the Asia-Pacific fleet expected to nearly triple, carriers in that region will require the most deliveries (980), followed closely by North America (955). These two regions will account for more than two-thirds of global deliveries.
- India's domestic air cargo market will nearly quadruple as express and e-commerce networks expand.

SAUDIA ENHANCES INDIAN OPERATIONS

With over five decades of service in India, Saudia, the national flag carrier of Saudi Arabia, is set to enhance its connectivity and cater to the evolving needs of Indian guests as part of the Kingdom's Vision 2030 initiative. Currently, the airline operates 54 weekly flights across six major cities, including Delhi, Mumbai, Bengaluru, Hyderabad, Cochin and Kozhikode, solidifying its position as a leading Gulf carrier in India. Saudia recognizes India's immense potential for inbound tourism, with a goal of attracting 7.5 million Indian visitors annually by 2030. This ambitious target aligns with the Kingdom's vision to position tourism as a pivotal component of its economy, making India a vital source of visitors to Saudi Arabia. ●

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