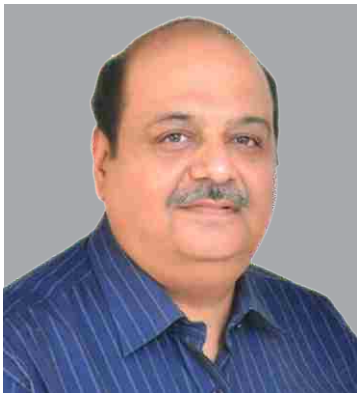
VOL:8
ISSUE:51

AVI-NEWS

October-December, 2024 - INDIA

A QUATERLY NEWSLETTER

Editorial...



Dear Friends,

India is aiming to become a global aviation hub and start manufacturing aircrafts, with plans to increase airports and promote sustainable aviation fuel in the country.

With Asia-Pacific region poised to lead global aviation growth,strategic investments in infrastructure and collaboration amongst the regional stakeholders has become critical to achieving sustainable growth across the sector.

Speaking at the second Asia Pacific Ministerial Conference on Civil Aviation in the national capital, Naidu emphasised on three elements-infrastructure,integration and innovation-for the sector's growth. "My ministry is working with the vision of establishing a seamless aviation landscape in the country,integrating helicopters and seaplane operations alongside wide-body aircraft under the regional connectivity scheme.

India is one of the world's fastest growing civil aviation markets and the fleet size of domestic carriers has increased to around 800 from 400 in 2014 while the number of domestic passengers climbed from 67 million to 152 million during the same period.

The number of operational airports have grown from 74 in 2014 to 157. India has an ambitious plan of scaling this up to 350-400 airports by 2047.The country is also well-positioned to offer cost-effective and high-quality MRO (Maintenance, Repair and Overhaul) services to domestic and international airlines.

Indian government is looking at ways to boost indigenous production capabilities and also start manufacturing aircraft in the country. India is also promoting adoption of Sustainable Aviation Fuel (SAF). The target is to blend 1 per cent of sustainable aviation fuel with jet fuel in 2027, 2 per cent in 2028 and 5 per cent by 2030 for all international flights.

However India's potential as a global aviation hub within the next 5-7 years hinges on structured development and close stakeholder coordination.This transformation could significantly impact global air travel patterns and boost India's economic growth.

Happy travels!

Sanjiv Aggarwal

VOLUME: 8

- ISSUE: October - December, 2024
- PERIODICITY: Quarterly
- PUBLISHER: AVITRUE SPARES DMCC
- WEBSITE: www.avitruespares.com
- EDITORIAL OFFICE: 803, Almass Tower, Dubai Marina-48748 Dubai, UAE
- EMAIL: info@avitruespares.com

- DESIGNED BY: Silenttpartners Inc. www.silenttpartners.com

Union Minister of Civil Aviation Launches Guidelines for Seaplane Operations in India

Extensive network of Rivers and Lakes present a unique opportunity for the Development of Seaplane operations in the Country-Shri Naidu.

Union Minister for Civil Aviation, Shri Kinjarapu Rammohan Naidu has launched the Guidelines for Seaplane Operations in India in New Delhi. During his address at the event at the Indian Aviation Academy, Union Minister said that 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.

Union Minister, Shri Rammohun Naidu also launched the 5.4 version of the UDAN. Under UDAN 5.4, fresh bids would be invited for the routes which were cancelled for some reason or the other, to provide connectivity on unserved routes. The Minister also announced that the demonstration flights of the seaplane by manufacturer De Havilland would be held shortly.

Addressing the occasion, Union Minister underlined about India's 7517 km long coastline and extensive network of rivers and lakes which present a unique opportunity for the development of seaplane operations in the country. On careful study of the situation and drawing from the experience of the helicopter operations, the Government has taken a flexible and pragmatic approach to ensure the growth of seaplane operations.The guidelines would enable the seaplane operations under RCS to make use of the operations under a Non-Scheduled Operator Permit (NSOP). The extension of the Viability Gap Funding (VGF) under the RCS to seaplane operations would provide the initial fillip to the Operators. While seeking to promote seaplane operations, due care has been taken to ensure the safety and security of the operations.

The Minister further informed that despite initial challenges, particularly in the development of water aerodromes, the Government has taken a flexible and pragmatic approach to ensure the continued growth of seaplane operations. Drawing inspiration from the success of NSOP operations for helicopters and small aircraft under the RCS scheme, the Ministry of Civil Aviation has now formulated comprehensive Seaplane NSOP Guidelines. These guidelines prioritize the safety and security of operations and define the responsibilities of all stakeholders, ensuring a seamless and efficient seaplane operation across the nation. The adoption of the Non-Scheduled Operator Permit (NSOP) framework for seaplanes is a significant step forward in the Government's commitment to enhancing regional connectivity.

Union minister emphasized on need of favourable policy environment for seaplane industry in India and encouragement on research into technologies like electric seaplanes to reduce carbon emissions and align with India's commitments under the UN Framework on Climate Change.

"He said our goal is to create a regulatory framework that fosters innovation, promotes growth, and generates employment opportunities for pilots, maintenance staff, and ground crews by prioritizing local workforce development. We envision developing Multimodal Transport Hubs for seamless connectivity between seaplanes and other transport modes."

Addressing the occasion, Union Minister of State for Civil Aviation and ministry of cooperation, Shri Murlidhar Mohol said that this initiative is poised to not only improve connectivity but also to boost tourism, foster economic growth, and bring the most remote areas of India closer together. The newly launched guidelines represent a well-considered framework designed to ensure that seaplane operations are conducted safely, securely, and efficiently, marking a new era in India's aviation landscape.
The event witnessed the participation of senior officials from Ministry of civil aviation, State and Union Territory Governments, NSOP and SOP operators, Original Equipment Manufacturers (OEMs), seaplane manufacturers, lessors and media personnel, among others.

Unification of GST slabs and the increase in Aircraft fleet by Domestic Airlines

Expected To Double India's MRO Industry From $2 Billion To $4 Billion In Seven Years.

Government of India has recently announced the unification of GST slabs for MRO components and services, which will facilitate the integration of domestic MROs with global value chains. The recent order by domestic airlines for over 1,100 aircraft is expected to double the size of India's MRO industry from $2 billion to $4 billion over the next seven years.

Shri Rammohan Naidu underlined following key initiatives taken by the Ministry of Civil Aviation to strengthen the MRO sector:

1. Demand for MRO Services:
The Minister acknowledged the growing demand for MRO services in India and expressed the government's ambition to cater not only to the domestic fleet but also to international airlines. "India's geographical advantage allows us to offer MRO facilities to numerous international airlines, making us a competitive global player," the Minister added.

2. Integration into Global Value Chains:
The Minister addressed concerns about the MRO industry's integration into global value chains, affirming that efforts are underway to harmonize Indian MRO facilities with international standards. "We are committed to ensuring that our MRO sector aligns with global practices, making India a preferred destination for international airlines," the Minister said.

3. PLI Scheme for MROs:
The Minister highlighted the potential of the Production Linked Incentive (PLI) scheme to drive growth. He said that depending on the industry demand, the Government could consider extending a PLI scheme to the MRO industry to further accelerate its development.

4. GST Reforms:
A significant reform in the GST structure for MRO services was highlighted by Ram Mohan Naidu. Previously, the varying GST rates of 5%,12%,18%,and 28% on aircraft components created challenges, including an inverted duty structure and GST accumulation in MRO accounts. But a landmark decision was notified on 12th July 2024 whereby a uniform IGST @5% shall be applicable for all parts of aircraft/ aircraft engines and APU irrespective of the Chapter of the Custom Tariff Act, 1975 under which the item may be covered. "This historic decision, effective from July 15, 2024, simplifies the taxation process and is projected to propel the MRO industry towards a $4 billion valuation by 2031," the Minister said.

5. Support and Incentives for MRO Facilities:
The Ministry of Civil Aviation will facilitate the stakeholders across India to establish MRO facilities for both domestic and international airlines. The government is committed to provide all policy and regulatory support to ensure the success of these initiatives.

6. Customs Duty Exemption and FDI Facilitation: As part of the announcements in the Union Budget, the government has extended the period for exporting goods imported for repairs from 6 months to 1 year. The customs duty on tools and toolkits has already been exempted. Additionally, the government has allowed 100% Foreign Direct Investment (FDI) via the Automatic Route for MROs, aimed at achieving the best possible Turn Around Time (TAT).

AI-Driven Solutions for Civil Aviation with YouTube and Google

Collaborating with YouTube and Google will enhance efficiency and innovation in the Aviation Sector – Shri Rammohan Naidu

Union Minister for Civil Aviation, Shri Rammohan Naidu, has engaged in detailed discussions with YouTube Global Head, Mr. Neel Mohan, Google Asia Pacific Region Head, Mr. Sanjay Gupta, MD-government Affairs, Sreenivas Reddy, and Global VP for YouTube Government Affairs, Lesslie Miller in New Delhi. The Minister has aimed at leveraging technology for the advancement of civil aviation and governance in this landmark meeting.

During the meeting, the leaders deliberated on the advancing role of Artificial Intelligence (AI) in governance and explored innovative Google solutions that can enhance governance using AI. Shri Rammohan Naidu emphasized the potential of AI to streamline processes, improve efficiency, and foster transparency within the civil aviation sector.

Shri Rammohan Naidu has utilized this opportunity to request YouTube's collaboration in spreading more awareness and knowledge about civil aviation. He envisioned a partnership where YouTube could play a pivotal role in educating the public about the intricacies and advancements within the aviation sector, thereby fostering a more informed and engaged audience.

Furthermore, The Union Minister urged Google to explore collaboration opportunities for aviation-related startups. He highlighted the challenges faced by the aviation industry and sought Google's expertise in developing innovative solutions to address these problems. The potential partnership aims to support startups that can contribute to the growth and development of the aviation sector through cutting-edge technology and innovative approaches.

The meeting concluded with a mutual agreement to explore these collaboration opportunities further and to work towards implementing innovative solutions that can drive the future of civil aviation and governance.

Google AI

The 2nd Asia Pacific Ministerial Conference on Civil Aviation Held in India

India's aviation sector has witnessed phenomenal growth, evolving into one of the largest and most dynamic markets in the world. From the humble beginnings of civil aviation in 1911 to the privatization of Air India and the advent of low-cost carriers, the industry has experienced significant milestones. With India hosting the 2nd Asia Pacific Ministerial Conference on Civil Aviation, the country stands at the forefront of global aviation innovation and growth. The government's initiatives, including the UDAN scheme, are reshaping regional connectivity, and rapid infrastructure expansion promises unprecedented growth.

As aviation continues to rise as a key driver of economic development and innovation, India's aviation landscape is poised for an exciting future, marked by sustainability, collaboration, and technological advancements.

The 2nd Asia Pacific Ministerial Conference on Civil Aviation was held from 11th to 12th September 2024 at Bharat Mandapam, New Delhi. The event was co-hosted by the International Civil Aviation Organization (ICAO) and the Ministry of Civil Aviation, Government of India. The first Ministerial Conference of the Asia Pacific region was organized in 2018 in Beijing, China. During the first conference, India volunteered to host the second Conference in 2020 however due to the Covid-19 pandemic, the conference was postponed. Key Highlights Asia Pacific Ministerial Conference on Civil Aviation is being held against the background of the ever growing and evolving travel needs and requirements of the people living in the region. There is increased focus on exploring airport development and infrastructure that supports burgeoning airline growth with its challenges for the future.

This event brings together top aviation decision makers and policy drivers from across the globe to discuss and deliberate on cooperation and coordinated approach going forward and is an ideal opportunity to identify new opportunities and forge new relationships in the aviation sector. India is the fastest growing aviation market in the world and is currently the 3rd largest in the domestic segment. In the last decade, the number of aircraft in India has increased from 400 to more than 800 and airports have exponentially grown from 74 to 157. The government's ambitious initiatives like UDAN (Ude Desh ka Aam Nagrik) have enhanced regional connectivity, ensuring that even remote areas are integrated into the aviation network creating a robust ecosystem for unprecedented development. The result is that the aviation sector is on a steep growth trajectory and has been one of the world leaders in surpassing the pre-covid levels of domestic and international travellers. This tremendous growth is exemplified by Indian Airlines ordering more than 1200 aircrafts in the last year alone.

The expanding collaboration between the public and private sectors signal a transformative era for Indian aviation, positioning it as a key driver of economic development and enhanced connectivity. The Indian aviation sector is set to reach unprecedented heights in the coming years.

Tata, Lockheed Tie Up For Aircraft Production In India

Lockheed Martin, Tata Advanced Systems agree to expand C-130J Super Hercules opportunities in India, provides framework for further business collaboration.

In a major announcement, Tata Advanced Systems has entered into an agreement with U.S. aviation giant Lockheed Martin to "expand C-130J Super Hercules opportunities in India".

According to a release by Lockheed Martin, the agreement will expand upon the companies' business relationship through the Super Hercules tactical airlifter and "marks a significant step in enhancing India's aerospace capabilities while also deepening India-U.S. strategic ties."

The companies have agreed to a framework to collaborate on future potential business opportunities which include:

- Establishing a Maintenance, Repair and Overhaul (MRO) facility in India.
- Expanding C-130J manufacturing and assembly in India to produce Medium Transport Aircraft, subject to U.S. and Indian government approvals.

Lockheed Martin will continue to build the medium-life transport aircraft at the existing Super Hercules production facility in Marietta, Georgia, USA, adding the company will establish additional production and assembly capacity in India if awarded the MTA contract.

Battery Technology in Advanced Air Mobility
SOLID STATE BATTERIES A SOLUTION?s

The demand for higher energy density batteries increases as the demand for portable electronic devices and electric automotive increases, as well as a variety of other applications requiring substantially higher power and energy than attainable with current lithium-ion capabilities which includes the area of electric aviation. However, the improvement of energy density is insufficient alone for enabling electric aviation when considering the high flammability and risk of thermal runaway inherent in current state-of-the-art liquid electrolytes. The development of high energy, high power, and safe batteries are required to enable hybrid and fully electric aircraft.

All-electric aircraft need a lot of power, particularly for vertical launches. Existing battery technology can handle this, but its energy density is one of the major reasons why a lot of AAMs have a fairly short range. The main goal, other than decarbonising aerospace, is to develop a viable battery solution for aerospace.

The power requirements and weight considerations of aircraft make batteries an interesting choice, as they need far greater energy density than batteries for land vehicles. Compared with lithium-ion batteries, solid-state batteries have better thermal stability and can operate efficiently in a wider range of temperatures. With a higher energy density, they also reduce the total weight of the batteries, enabling longer flights with larger aircraft and heavier payloads.

solid-state batteries are slowly making their way into the EV market and appear to be the most likely contender for the next generation of aircraft batteries. Whereas lithium-ion batteries typically contain liquid or gel polymer electrolytes, solid-state batteries have solid electrolytes. They have much higher energy densities than traditional lithium-ion batteries and are generally considered to be safer, which makes them an ideal candidate for aviation applications.

Lithium-ion batteries are prone to thermal runaway-uncontrollable overheating that may result in fire or explosion-partly because they contain flammable liquid electrolytes, typically consisting of organic solvents mixed with lithium salts and other additives. In the event of a short circuit or other physical damage, flammable electrolytes in lithium-ion batteries can ignite, potentially making an already bad situation much worse.

Researchers have been experimenting with different types of solid electrolytes for decades. All have generally run into the same problems: low ionic conductivity, high surface resistance at the electrode-electrolyte interface, and poor mechanical stability with brittle solids. Higher resistance and lower conductivity both hinder the flow of electricity through the battery, limiting its performance and reducing the overall energy efficiency.

For these reasons, solid-state batteries on the commercial market have so far been limited to small electronic devices.

Currently, researchers are using in-depth computational modelling and machine learning on a digital twin to assess and predict ways they could improve the battery's design further, in order to meet the energy demands such an objective would require. There is still a long way to go but the good news is that there is a positiveness in the market that the goal is certainly achievable.