

Why and How Air Taxis will have an edge over other Helicopters or even the surface transportation eventually?



Dear Friends,

The key to successfully scaling air taxis up to mass transportation level lies in the vehicles having fundamental advantages over helicopters. These Now we have vehicles have edge a new Nepal Office over helicopters in urban mobility when for your convenience! it comes to safety, **Contact: Sunil** cost, noise and +977 14412389efficiency thanks to distributed propulsion and electricity. These factors will let the rideshare companies push their air taxis past the elites-only price-point that helicopter urban transit has always held.

Helicopters generally have a single point of failure, often a main rotor retaining nut, dubbed the "Jesus nut" due to its ubiquitous criticality in linking the cabin to the rotor. Uber is building, fixed-wing, electric or hybrid-electric vehicles wherein control and thrust can be distributed across the platform so that a single part failure won't bring it down, such redundancy means greater safety. It also is one way to save on operating costs as they thus

will require fewer inspections. Noise is another challenge as communities are hesitant to accept new travel that will disrupt daily life. Air taxis can make less noise than helicopters in the first place by cruising in wing borne rather than edgewise flight, and slowing down the tip speed the right amount will allow further noise reduction by about 15 decibels, which is enough to blend into ambient city noise. By keeping Sky ports, on the tops of multi-story structures so that the source of the noise is elevated off the ground and placing Sky ports close to a major artery, like a big roadway

that already creates noise, will help

in the additional air taxi noise blend in.

Helicopter flights cost about \$9.00 per mile — too high to be sustainable. Companies like Uber believe that if they get an average load factor (in the airborne equivalent of Uber's ridesharing Uber Pool service)

of 2.7 to 3 passengers in its fourseat (plus one pilot) taxis, it can get the price per passenger mile down to \$1.84, which is comparable to Uber's ground service.

Eventually, pilots will be unnecessary, which will have two-fold effect. Firstly removing the largest cost factor (pilot salaries) and adding an additional seat in each air taxi. Removing the human element might also make things more reliable. Happy riding!.

Happy Landings.

Gp Capt Sanjiv Aggarwal

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A quieter year for air cargo? Not according to expansion-minded carriers



Despite expectations that the air freight market could soften this year, airlines seem keen to upgrade their fleets and networks, according to several announcements this month.

Yesterday, All Nippon Airways said it would introduce a new 777 freighter, in anticipation of increased demand for routes between Asia and North America.

Partner Lufthansa Cargo has said it would bring in four 777 freighters this year, two leased, and two bought, of which two will go to DHL joint-venture Aerologic.

The German carrier, which currently operates five 777 freighters, also told media it

24X7 AOG RESPONSE TEAM Shubhesh: 98216 96277, 98216 96278, sales@avitruespares.com would begin to retire its ageing 12-strong MD-11F fleet, with two set to go by the year end.

Meanwhile, Cargologic Germany, soon to be launched by the owner of Volga-Dnepr Group, has received its first aircraft, before its Aircraft Operating Certificate (AOC) has arrived. The first 737-400SF, to be dedicated to the intra-Europe e-commerce market, arrived this month at Leipzig/Halle.

Volga-Dnepr subsidiary Atran, based in Russia, is about to begin operating an additional 737-800BCF, which has arrived in Moscow, while sister airline AirBridgeCargo is set to receive a 747-8F next month.

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INDIA TO BE IN World's top 5 Air Freight Markets

The government of India unveiled its much-awaited national air cargo policy, which seeks to make India among the top five air freight markets by 2025, besides creating air transport shipment hubs at all major airports over the next six years.

International cargo comprises 60 per cent of the total air cargo tonnes handled in the country, logging a growth of 15.6 per cent in the previous fiscal, while domestic cargo grew by over 8 per cent, which reflects the skewed modal mix, in which roads account for over 60 per cent of cargo transportation as compared to the global average of around 30 per cent.

Indian industry presently has a small share of about 2 per cent of the global market,but is growing at a compounded annual growth rate of 17 per cent over the past five years and was estimated to be Rs 22,000 crore in 2016-17. The domestic business is estimated to be worth Rs 17,000 crore.

The potential in the markets is planned to be exploited by long-term infrastructure creation and by establishing agreements between national carriers/ freighters and integrators to improve domestic connectivity as well as encourage the establishment of agreements between national and international carriers/ freighters and other airline operators to provide access to key global cargo hubs.

Boeing Revenue Crosses \$100 Billion in 2018

Boeing earned \$101.1 billion in 2018, an 8 percent yearover-year growth and a new high mark for the plane maker. The company saw moderate gains in each one of the major segment, with the most growth seen in the smaller defense and services businesses.

Boeing is working to establish itself more in China, where the company set up a "737 completion and delivery center" in 2018 to support Asian deliveries of the 737 MAX family. Currently, about one-third of 737 MAX orders are destined for China, and Boeing predicts the country will need nearly 8,000 new commercial aircraft over the next two decades. Boeing's commercial business, which accounts for well over half of the Seattle manufacturer's revenue, saw a 5 percent year-over-year (YOY) increase, to \$60.7 billion. Bolstered by a strong fourth quarter in which it delivered 239 planes valued at \$17.3 billion — up 14 percent and 12 percent, respectively.

Boeing's Defense, Space and Security business continues to grow. The company delivered two satellites this year, one military and one civil, and has upped its volume on F/A-18 Hornets. Boeing's Defense segment saw growth of 13 percent YOY, from \$20.6 billion in 2017 to \$23.2 billion in 2018. The group's operating margin saw a particular jump, up 3.8 points from 6.9 percent in 2017 to 10.7 percent in 2018.

American

In 2019, Boeing expects to gain steadily and generally improve its figures across all three key segments.The company predicts between \$109.5 billion and \$111.5 billion in revenue. which would mean 8.3 percent to 10.3 percent YOY growth. A big item to keep an eye on for Boeing in 2019 will be its joint venture with Embraer. Originally announced last July as a way for Boeing to take over 80 percent of Embraer's commercial business after Airbus got Bombardier's C-class jets, the approvals have been slow to come.

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A MONTHLY NEWSLETTER

AVI-NEWS





Our Team at

MRO MIDDLE EAST 2019 | 11 - 12 February



AVITRUE HAS TIE UP WITH FAA AND EASA APPROVED SHOPS IN US AND EUROPE FOR COMPONENT REPAIR

EASA MULLING TO CREATE A NEW CATEGORY FOR EVTOL CERTIFICATION

Last November, thirty corporate officials from eight countries met with EASA and other European regulators in Cologne and Brussels to discuss the needs of the emerging eVTOL sector.The European Aviation Safety Agency (EASA) is considering adding a "special condition" category to deal with the certification of electric and hybrid-electric vertical take-off and landing (eVTOL) vehicles.

According to a notice by EASA October. "The published in agency considers that the current airworthiness standards for aeroplanes or rotorcraft are not adequate to prescribe the standard means to demonstrate compliance of such products with the essential requirements of the Basic Regulation. Therefore there is a need to develop a dedicated full set of technical specifications in the form of a special condition that can be used to establish the certification basis."



If EASA adopts VTOL as a new certification category, eVTOL certifications may get delayed a decade, as European countries would have to ratify the proposal, according to industry observers. GAMA favors keeping the existing certification framework and certifying eVTOL under that using a term, such as "aeroplane with a vertical lift

component." They believe that EASA should take serious consideration of creating a new vehicle classification 'VTOL' in the design rules. As the European operating construct considers rotorcraft and aero planes, determining a VTOL category of aircraft essentially dooms this industry to decades of special approvals and one-off agreements.

HYDROGEN CELLS BEST BATTERIES IN HOUR-LONG DRONE TEST FLIGHT

An under-development drone powered by a hydrogen fuel cell beat its hour-long flying time target in recent testing, staying aloft for over 70 minutes with a 5 kg payload.

Dubbed Project Rachel, the British drone is a collaboration between engineering firm Productiv, UAS videography company BATCAM and fuel cell provider Intelligent Energy, with support from Innovate U.K., a group set up with British government money to stimulate growth by providing grants to business ventures with new ideas.

Project Rachel was born of a need for commercial UAS with longer flight times; the lithium-ion battery-



powered drones that BATCAM uses in its work have a typical maximum usable flight time of around 12 minutes, according to the company. Hydrogen-powered drones could top that as soon as this year.

Operators need longer flight times than can be delivered with batteries

and are therefore seeking alternative power sources with higher power density,Hydrogen power has huge potential here, The Project Rachel drone used in the test featured a six-liter cylinder of hydrogen compressed to 300 bar housed in the center of the vehicle. The UAS had a maximum takeoff weight of 20 kg (44 lbs.) and achieved lift through the use of rotors on four detachable stalks.

With testing having proven viability of the technology in achieving the program's goals, Project Rachel is slated to conclude in early 2019, with BATCAM carrying out realworld end-user trials

A MONTHLY NEWSLETTER

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Close to finalising resolution plan, says Jet Airways CEO Vinay Dube

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Jet Airways chief executive officer Vinay Dube has informed employees the airline is very close to finding a solution to the airline's financial crisis and has sought their support.

JET AIRWAYS

"Our chairman, the board of directors and your management team are working hard on a balance sheet transaction that will help us eliminate our current challenges. In fact, the airline's key stakeholders are actively engaged towards finalization of the resolution plan. We are very close and I ask for your continued patience," Dube wrote in an email to staff last week. He said that the airline will come out of current set of challenges. "It might get tougher before it gets better and our ascendancy will be gradual but collectively with your unstinted support and commitment we will come out of this as a stronger airline," he said

Now, fly from city without paper boarding pass

Domestic passengers flying out of the Chhatrapati Shivaji Maharaj International Airport's Terminal 2 won't have to carry physical copies of their boarding pass.

Passengers will now have to authenticate their boarding pass at pre-embarkation security check points by scanning the QR code of their boarding pass on their mobile phone or a physical copy of the pass at e-gates, using the live passenger dataset. The e-gates will be located between the check-in counters and the security check hold area.

The pilot project of the Central Industrial Security Force (CISF) will be applicable for domestic passengers of Air India, Jet Airways and Vistara, which operate out of the integrated terminal at Terminal 2. The new method of authenticating the boarding pass will free the CISF staff from the responsibility of stamping boarding passes. The move will save the time of the CISF staff and also improve the overall security check process.

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Increase in tourism to benefit Indian Aviation Industry

MINISTRY SANCTIONS SPIRITUAL CIRCUIT OF RS. 85.23 CRORE IN KERALA; NEW CIRCUIT TO COVER 133 RELIGIOUS SITES IN 14 DISTRICTS OF THE STATE

Ministry of Tourism sanctioned projects worth Rs.85.23 crore for the development of Spiritual Circuit III for Kerala under Swadesh Darshan Scheme. Sites identified under the circuit are spread across all 14 districts of the state and cover 133 religious places. In Kasargode, Kannur, Kozhikode. Wayand, Palakkad, Malappuram, Thrissur, Ernakulam. Idukki. Alappuzha, Kottayam, Pathanamhitta, Kollam and Thiruvanathapuram.

The destinations have been selected keeping in view the inherent historic, cultural and religious significance of the places. The development works include Community hall, Annadhana Mandapam, Multipurpose hall, toilets, cafeteria, parking facilities, landscaping, pathways, illuminations, signages, dustbins etc. The Circuit covers religious sites all across the state

from Ananthapadmanabhaswamy Temple in the northernmost district of Kasargode to the Madre De Deus Church in Thiruvanathapuram, the southernmost district. The Circuit will cover several historical religious sites across the state like the Cheraman (Kodungallooor), Jumah Masjid Koodalmanikyam temple (Irinjalakkuda), St. Thomas Church (Malayattoor), Thriparayar Sreerama Temple (Thrissur) etc. In reply to a question, Shri. Alphons said that the sites have been identified after elaborate study and discussions with all stakeholders. He pointed out that sixty per cent of domestic tourism is related to spiritual circuits.

Swadesh Darshan scheme is one among the flagship schemes of the Ministry of Tourism for development of thematic circuits in the country in a planned and prioritized manner. Fifteen thematic circuits have been identified under this scheme, for development namely: North-East Circuit, Buddhist Circuit, Tirthankar Circuit, Himalayan Circuit, Coastal Circuit, Krishna Circuit, Desert Circuit, Tribal Circuit, Eco Circuit, Wildlife Circuit, Rural Circuit, Sufi Circuit, Spiritual Circuit, Ramayana Circuit and Heritage Circuit. Under this scheme the Government is focusing on development of quality infrastructure in the country with objective of providing better experience and facilities to the visitors on one hand and on other hand fostering the economic growth. The scheme was launched in 2014 -15 and as on date the Ministry has sanctioned 77 projects worth Rs. 6131.88 Crore to 30 States and UTs.



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SIKKIM THE NEW TOURIST HOT SPOT



The ongoing Swadesh Darshan project in Sikkim that the Ministry has sanctioned is "Development of North East Circuit: Singtam– Maka- Temi-Bermoik Tokel- Phongia- Namchi –Jorthang- Okharey- Sombaria-Daramdin- Jorethang- Melli" in September 2016 for Rs.95.32 crores. The work under the project is in progress.

The development of Tourism in North Eastern Region being prime area of focus for the Ministry of Tourism, several initiatives for growth of domestic and international tourism in the region has been taken by the Ministry. One of the many challenges region faces in development of tourism is the absence of quality infrastructure, services and awareness about the array of tourism products the region has to offer.

The Ministry is carrying out number of activities to handle the issues on above fronts. On one hand the Ministry has given great impetus the tourism infrastructure to in the region under its flagship schemes of Swadesh Darshan and PRASHAD. For development of Tourism infrastructure, the Ministry has sanctioned 16 projects for Rs. 1349.04 crores covering all North Eastern States under its schemes of Swadesh Darshan and PRASHAD. The Ministry is actively working with

other Central Ministries like Mo/ Culture, M/o DONER, M/o Road Transport and Highways, M /o Civil Aviation etc. for development of Tourism in the region.

Swadesh Darshan scheme is one of the flagship scheme of Ministry of tourism for development of thematic circuits in the country in a planned and prioritised manner. Under this scheme the Government is focussing on development of quality infrastructure in the country with objective of providing better experience and facilities to the visitors on one hand and on other hand fostering the economic growth. The scheme was launched in 2014 -15 and as on date the Ministry has sanctioned 77 projects worth projects for Rs. 6121.69 Crore to 30 States and UTs. 30 projects / major components of these projects are expected to be completed this year. 11 projects have been inaugurated as on date under the scheme.



For promotion of North East region Ministry carries out special promotion in domestic and international markets highlighting regions diversity, tourism products and its rich culture. The Ministry of Tourism has also set up Hotel Managements and Food Craft Institutes for creating skilled manpower in tourism and hospitality sector in the North Eastern Region.

The efforts of Ministry have shown positive results and the Foreign tourist arrivals in the region has shown an upward trend over the years. The region received a total of 1.69 lakh foreign tourist visits during 2017 as



against 1.45 lakh in 2016 registering a growth of 16.7% over 2016. The Domestic Tourist Visits reached to 95.47 lakhs in the year 2017 against 77.71 lakhs registering impressive double digit growth of 22.8% over 2016. The increased number of tourists in turn has created better employment opportunity for the local population in the region.

Final Development Report prepared for 4 islands in Andaman & Nicobar and 5 islands in Lakshadweep

The holistic development of identified Islands in the country has been taken up by NITI Aayog. The final Site Potential Development Report has been prepared for four islands in Andaman & Nicobar (A&N) namely Smith, Ross, Long and Aves Islands and five islands in Lakshadweep namely Minicoy, Bangaram, Thinnakara, Cheriyam and Suheli Islands. Tourism based projects have been identified in Long, Aves, Smith and Neil Islands of A&N and Minicoy, Kadamat and Suheli Islands of Lakshadweep while according priority to air and sea connectivity and the construction of airport at Minicoy in Lakshadweep by the Indian Air Force.

The Ministry of Tourism has also sanctioned a project for Rs. 42.19 Crore during 201617 for Development of Coastal Circuit (Long Island-Ross Smith Island- Neil Island- Havelock Island- Baratang Island-Port Blair) in Andaman & Nicobar under the Coastal thematic circuit of Swadesh Darshan Scheme for development of island tourism in the country.

A Pilots Dream Becomes a Reality

As domestic civil aviation market in India continues to register an impressive growth, there is a growing demand for trained pilots. To cater to this demand, a new fullflight simulator training centre is coming up at Gurugram near Delhi's IGI international airport. Captain Sachin Khandekar, a pilot with Jet Airways is the driving force behind the new simulator centre.

Aviation majors have forecasted a requirement for at least 1,600 new passengers and freighter aircraft by 2035. Corresponding increase in the country's aircraft fleet will result in need of over 24,000 new pilots and aircraft maintenance engineers. The new training facility will be the country's biggest privately owned in Delhi NCR and it will be extended to Mumbai in the times ahead. The total estimated cost of the simulator training facility would be of Rs. 500 crore; which will be fully capable of training professional commercial pilots from India as well as abroad at most economical charges.

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