

Report

ON

General Aviation: Growth, Opportunities and Challenges

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Preface

This document grew out of a need to consolidate the current status of General Aviation (GA) in India and the opportunities and challenges facing this sector. It is a pivotal step in that direction to take-up the issues with Ministry of Civil Aviation (MoCA) & Directorate General of Civil Aviation.

Dr Arjun Singh is a Program Director, US-India Aviation Cooperation Program. The ACP activities are mainly focus to aviation and aerospace. ACP closely works with Airports Authority of India (AAI), Directorate General of Civil Aviation (DGCA) and Ministry of Civil Aviation (MoCA). Prior to joining ACP, He was Secretary to Ajay Prasad's Committee on **"Futuristic Air Navigation System Master Plan"** and completed the task in Feb-2008. This report was submitted to Ministry of civil Aviation (MoCA), Government of India, for acceptance and implementation. This report is a bible for Indian Air Navigation Service Providers (ANPS) which provides the short-term, medium-term and long-term perspectives of Indian civil aviation sector.

Prof Ajit Nigam, an Associate Professor at the University of Petroleum and Energy Studies is also a research fellow pursuing his Ph.D. in the area of General Aviation. With about twenty years of corporate experience, Prof Nigam is also a graduate in Law and Management.

We are also thankful to Mr. Kuldeep Yadav, Mr. Brijesh Dayanand, Mr. Naman Joshi, Ms. Niriha Khazanchi, Mr. Satyanshu, Ms. Itisha Sharma and Ms. Ayushi Aggarwal MBA (Aviation) Student of UPES Dehradune helped in preparing the transcription of this document

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Indo American Chamber of Commerce has organized one day seminar on General Aviation: Growth, Opportunities and Challenges held on Feb 9, 2012 at PHD House, August Kranti Marg New Delhi - 110016. The seminar organized under the leadership of Dr. Arjun Singh, Program Director, U.S. India Aviation Program and Ms Ruchika, Assistance Regional Secretary, Indo-American Chamber of Commerce is a pivotal step in that direction to take-up the issues with Ministry of Civil Aviation (MoCA) & Directorate General of Civil Aviation. Ms Ruchika has provided the entire logistic support to conduct the seminar in smooth manner. Our first debt of gratitude is to sponsor's who supported this program and participants who participated in this seminar.

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SUMMARY

The following points have been taken out from IACC's seminar held on General Aviation: Growth, Opportunity and Challenges. The relevant points have been brought down for quick reference. The important points brought below from Inaugural as well as the Sessions highlight points of contention

1. It is emphasized that the linkage between the civil aviation sector and economic activity; and its catalytic impact on development is also well recognized”.
2. Important issues like taxation, input costs, security, regulation of monopolies, environment as well as issues related to liberalization were brought into discussion.
3. GA facilitates emergency medical services, disaster management, offshore operations, scientific research and security as well as law enforcement.
4. GA is experiencing a lot of constraints. There are no exclusive guidelines for GA activities. It inhibit the growth of GA are mainly lack of infrastructure and manpower as well as several procedural issues related to government control.
5. There is no concept of Fixed Base Operator (FBO), Helicopters or GA terminals in the country. Numbers of agencies for ground handling are extremely restricted. There is no separate parking for GA aircrafts and helicopters operate out of airport. There is a much-needed focus which Government of India and DGCA is now putting on the GA sector.
6. As far as GA potential is concerned, the demand for business jets in the country is expected to go up by more than 10% a year in the next decade. In India, business aircrafts have continuously evolved to meet the increasing market demands for speed and comfort and with a number of high net-worth individuals. No doubt the business jets market will increase and jet manufacturers will be intensifying their efforts to sell more aircrafts in the country.
7. Another area of visible growth in India will be the oil and gas industry and in order to support exploration and development of new sources, there will be a need of longer-range helicopters and which ONGC and the Ministry of Petroleum is addressing.
8. The field of emergency medical services operated by helicopters is also emerging as a very important growth area. In terms of fixed wing business jets, statistical studies indicate that generally they are more cost effective than commercial services and hence there is the potential. But the same time there is an urgent need to increase safety awareness and compliance culture in GA.

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9. From the point of view of the Safety Regulator, a large number of issues need to be tackled both in terms of equipping with necessary trained manpower as well as training the personnel to undertake the responsibility which is lie with industry.
10. One of the bad laws that affect GA is import duty on the import of businesses aircraft, which is 18%, which restricts the growth to around 7-8%. Addressing the import issues we can achieve growth of 20-25% in GA sector;
11. Ministry of Finance and Ministry of Civil Aviation coordination is very much required to resolve the above issues.
12. DGCA needs 30 days time for clearance of a foreign registered aircraft to land in a defense airport with a civil enclave. This fact needs to be addressed.
13. Multiple leg flight plans is again a major issue with GA operator
14. Landing and parking charges should be through a preloaded card or a credit card which the service provides just swipes and makes the payment instead by cheque or cash or draft. This will lead to easy out the payment.
15. AAI website should display the ground handling agents at all their airports.
16. The Bureau of Civil Aviation Security, again there are issue on Security passes for pilots and engineers which is happening every day. For example- when Pilot actually fills in the boarding pass, he does not know whether he is getting in time or not. If the pilot's pass is not ready, how can he be expected to fly? Sit on the ground for as and when receive the passes.
17. There is no access for foreign pilots / engineers hence they cann't go inside the airport to fly or do the maintenance of the GA aircraft which needs some attention as per regulator.
18. Reduce the time requirements for landing and over-fly approvals
19. Develop a process allowing easier ramp side access for business aircraft pilots and support personnel and need to develop guidelines / regulations for support of the business aviation / GA.
20. It is difficult access issues like clearance processing and airport formalities issues which limit international companies comes to India. DGCA needs a seven days notice for an international company required to come to India, which needs rationalization.
21. Direct Import of ATF recommended by Government of India, It still is a proposal. The industry's looking forward that it be permitted / allowed.

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22. Custom duties on the GA aircraft, spare parts for MRO, etc needs to be relooked and liberated
23. As a GA Financer stand in as the financial regulator, because obviously this is an area which is heavily regulated and in India there are multiple agencies that are regulated. Because the finances is giving to someone 10 to 20 million dollars, so we make sure the assets are protected.
24. RBI issues: In India, the RBI that regulates remittances and their main concern is to make sure that remittances go out of the country are against the import that comes in.
25. The Financer who sometimes does construction finance, has to make sure not only the customer has RBI approval in place, but they have given undertaking to RBI that not sending the money out, the financier is sending out the money
26. There is a rule on DGCA books, which requires temporary registration, just like a ferry flight permit, but again its need clarity that how GA purchases can use that, to make sure that it has been just purchased into the country. That's one of the issues.
27. GA issues like importation approval processes and the Reserve Bank of India (RBI) currency restrictions are under review process by DGCA. .
28. So in India, which has been ratified by Cape Town Convention and made a lot of headway in this area, that lender faces here is, actually getting access to the tarmac to make sure that their assets are secure.
29. The tax regime: For instance, servicing an aircraft in India, would entitle service tax of 12.36 %, overseas MROs do not charge this. Importing spares involves custom duties of up to 18% plus value added tax of 12.5% and Octroi of 5.5%, totaling about 41% or there about.
30. If an MRO is doing work for an airline industry and the airline imports the spares that are required, airline is not charged any custom duties, whereas the MRO if it does import for any other private operator or business aviation aircraft is charged custom duty. Currently, no exemption is provided for service tax on taxable services which include maintenance and repair provided in the aviation sector. Moreover general concessions are not currently provided on VAT and CST laws.
31. Giving MRO sector status of the industry sector is necessary, if the government wants to develop it and bring the exchequer some foreign exchange. Heavy taxation is the prime reason that the industry is lagging behind, despite having low cost and India being geographically located in the center of East and West.

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32. Custom duty and slow clearance procedure put yet another spoke in the process of MRO sector and also the aviation Industry in India. Custom clearance can take between 3 to 10 days if one is lucky and defeats the requirement of AOG. You can have an aircraft on Aircraft on Ground (AOG) and customs doesn't clear it.
33. Blue Channel is prevalent in EU, where the travelers between EU countries don't have to pay custom duties VAT and excise duties
34. MRO has said that the onus lies on MROs and not on DGCA, otherwise we have been only listening like DGCA regulations are tough and we are not able to meet. At least he has confessed that onus lies on MROs for development, not on the regulator.

INAUGURAL SESSION:

Excerpts from Welcome Address by Mr. S K Sarkar, Regional President, IACC

I am incredibly glad to see all of you gathered together, further stressing on the importance of today's topic being a key part of the Indian aviation industry. General Aviation (GA) segment in India is at a very premature stage and offers a host of attractive opportunities and growth prospects in future, if properly explored. As most of you would already be aware that Indo American Chamber of Commerce (IACC) has been particularly active in the aviation and aerospace domain, showcasing events on contemporary aviation issues from time-to-time. The Ministry of Civil Aviation (MoCA) has highlighted GA as a focus area for upcoming years to frame the policies and regulations in order to sustain impending growth in the aviation sector. Gauging the strong significance of this, often less talked about segment in aviation; it is high time that the chamber showcased a highly focused standalone meet on GA and its various aspects. We hope that the seminar with four technical sessions on GA infrastructure, regulatory framework, operational issues, financial and legal issues and skill set requirements and Maintenance, Repair and Overhaul (MRO) will be able to offer a meaningful and interesting platform to the governments, industry and academia to discuss and deliberate on all related issues.

I take this opportunity to extend a warm welcome to Mr. E.K. Bharat Bhushan, Director General of DGCA for having spared his valuable time and come here and address this seminar. We greatly look forward to DGCA's continuous support in future for such initiatives as well. I am very happy to acknowledge the presence of the working group from the International Civil Aviation Organization (ICAO) involved in preparation of baseline document of GA in India. I also welcome Ms. Judy Reinke, Minister Counsellor for Commercial Affairs, US embassy. IACC has been very fortunate to receive US embassy's support in its objective of facilitating Indo-US business and trade ties in various key sectors. We hope that forums like this will further strengthen the ongoing relationship in new and upcoming areas.

Private carriers now can import jet fuel directly, so that does help because it has been endorsed and cleared by minister's panel also headed by the finance minister. This avoids the State level levies, taxes on Aviation Turbine Fuel (ATF) ranging between 25%-30%, possibilities of credit from foreign supplies is an added advantage. Importers are required to pay about 8% customs duty. Interestingly India has a surplus crude oil refining capacity and exports 2.86 million tonnes of jet fuel and it exported around 2.86 million tonnes of jet fuel in the April-October period this year earning about 2.87 billion dollars. Civil aviation ministers proposed move to allow foreign alliance to pick up 49% in Indian Carriers and it may bring in long-term strategic investors. However most Foreign Carriers are themselves in huge debts and financial crisis and so will invest at the right valuation. But I thought that the foreign carriers are likely to be interested only in the controlling state. It is just how I

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feel about and obviously the prices today after airline stocks are pretty low. Between January 3, 2011 and January 17, 2012 Jet Airways script shed 67% of its value, Kingfisher lost 60% and Spice Jet 72% making equity investment in Indian carriers a very attractive proposition for foreign carriers. However lately, in fact this Monday itself airlines stocks did soar, that was because of the jet fuel imports being allowed.

Questions which remain are, would any foreign airline be interested in investing in a loss making airlines unless they get a controlling interest? May be the Middle East air carriers may be interested but do we want a gulf controlled aviation industry in India? Besides the Emirates-Sri Lankan airlines venture still rankles, Emirates invested 70 million dollars in 1998 and got back 53 billion dollars in 2010.

The Indian aviation market has grown the fastest in 2011 throughout Asia, but a word of caution here, following the emergence of low cost carriers here in 2005. Carriers have been pursuing a policy of chasing a market share without paying heed to the impact on their bottom lines. A side benefit would be foreign institution investors selling to foreign carriers. However, FII holdings are already down from 14.48% to 6.17% in Spice Jet, 7-10% to 4.6% in Jet Airways and 5.4% to 2.1% in Kingfisher between September 2010 and September 2011. The negatives of course are difficult economics of business, higher fuel prices, constrained infrastructure, competition, archaic regulations like route dispersal guidelines, personnel guidelines and restrictions on recruitment of qualified and experienced expatriate pilots. Foreign buyers are obviously looking at the high connectivity, strong brand and good management.

It's a great honor to have amongst us Ms. Judy Reinke, Minister Counsellor for Commercial Affairs, US commercial service, New Delhi. Ms. Reinke has served as Minister Counsellor for Commercial Affairs, US commercial services, New Delhi since August 2010. In this capacity she is the senior representative of the US Department of Commerce, responsible for the operations of the US Commerce Service in India, supervising the strategic program of seven offices dedicated to helping US businesses enter the Indian market. She also oversees the Indian based operations of the US Patent and Trademarks office, the Bureau of Industry and Security & Market Access and Compliance division of the International Trade Administration. Prior to her current position, Ms Reinke served as Regional Director of West Europe in the office of International Operations at the US Department of Commerce headquarters. In this capacity she oversaw the operation of the US and Foreign Commercial Service at US embassies and consulates in 14 countries in Europe as well as the commerce service liaison office at the European Union. Before assuming this role she served as Senior Commercial officer in the Philippines from 2005 to 2008, where she was responsible for managing the operations of the US commercial service office at the US embassy office in Manila

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providing export promotion support to American firms attempting to enter the Philippine market and counseling US companies on local business climate and commerce opportunities.

Inaugural Address

Excerpts from address by: Ms. Judy Reinke, Minister Counsellor for Commercial Affairs, US Embassy

We have all recognized the growing opportunity to collaborate into do the business in India in this particular sector. I am pleased particularly to have a chance to represent the US perspective, perhaps not every perspective but atleast that exclusive perspective from the US Government, which recognizes India as a place that is exciting to do business; where there are opportunities for American companies and where there are great partners to work with. We all recognize the challenges, we all recognize the opportunities and it is conferences like this, hosted by IACC that gives us a chance to address this and to move forward.

In United States, GA is an essential part of our transportation system and that is especially critical for individuals and businesses for both who need to travel and move goods quickly and efficiently in our just in time market. I think many of you who are in this sector know the bigger picture. But let me just state that over 320,000 GA airplanes are operational worldwide; ranging from 2 seat training aircraft to international business jets to Helios to others and nearly 228 of those 320,000 are operating in the US. In the United States GA aircrafts fly almost 24 million hours and carry 166 million passengers annually. Over two third of the hours flown by the GA aircraft are for business purposes and a key point is that GA is the primary training ground for most commercial airline pilots. So GA clearly is a big contributor towards US economy. It supports 1.2 millions jobs and over 115 billion dollars is contributed to US economy each year through this segment alone. And despite of US economy turn down from 2008 till perhaps mid last year, we saw GA manufacturing and delivering 7.9 billion dollars worth of aircraft in 2010. 62% of the manufacturing was tied to eventual exports. GA is one of the few remaining domestic manufacturing industries that provide a trade surplus for US and US exports of civil aviation equipment and services comprise nearly 15% of our exports to India. Now we recognize that there is great future potential for the Indian market. India is the ninth biggest aviation market in the world and in terms of domestic traffic, the fourth largest in the world behind the US, China and Japan and yet India is one of the least penetrated markets in the world even lower than Sri Lanka, Pakistan and Nigeria.

And hence here we are today, to discuss how to approach that opportunity. So again a few facts that I think are relevant to the discussion of the GA related to aviation infrastructure. India has 128 airports of which 15 are international airports; with 8 custom airports with limited international operations, and 25 are civil enclaves in defense airfields.

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How is that compared with US? Instead of 128 airports, the US has 19750 civil and joint use airports, heliports and seaplane bases. 14000 are available for civil private use. Nearly 4000 are paved GA airports open to the public. While scheduled airlines serves less than 500 airports. Clearly India has a lot of room to grow in the infrastructure sector and while India's aviation is growing rapidly it starts from a small base. Today we'll be discussing the opportunities and challenges in developing GA infrastructure, creating a regulatory framework that enhances growth in the sector and ways to procure the best equipment, technology, financing and training needed for robust GA market.

My agency is the US Department of Commerce as Mr. Sarkar mentioned and other agencies in the US Government work together with the Government of India (GOI) as well as the private sector in India and the US to develop faster opportunities in GA to benefit both nations. We do this through government-to-government initiatives, public private partnership (PPP) such as for example, the Aviation Corporation Program (ACP) that Mr. Sarkar referred to and a range of trade support activities.

Our US commercial service, the group that I manage has about 50-60 staff members and 7 offices throughout India whose job it is to introduce American companies to Indian companies and bring those American opportunities to market in India. We also reach back through a network of about 100 offices in the US, locally based, which will be in touch with US industries. Through our contacts in US, we can often identify solutions for the Indian market. We also encourage the businesses to tentrature weather they are the once that we support here in India or in US because we know that real business discussions takes place. So looking forward to how the Government of US engages with Government of India, I think US-Indian relations in civil aviation are at an all time high because we have regular exchanges at the highest levels of our respective governments. I'll give you few examples ...

First, the Ministry of Civil aviation (MoCA) and the Federal Aviation Administration (FAA) have a regularly schedule "Joint Aviation Steering Committee". I think we probably are all aware that the FAA does have the representative office in our embassy here in New Delhi and they are very active working with MoCA.

Second there is also a "Homeland Security" dialogue and through this bilateral dialogue our Transportation Security Ministry interacts regularly with MoCA to exchange data and training methods to ensure aviation security.

The third area is the US-India strategic dialogue itself. A key deliverable of the India-US strategic dialogue held last June was the signing of the executive agreement portion of the Bilateral Aviation Safety Agreement (BASA), which we all know is BASA. BASA provides for reciprocal inspection and certification of aerospace products and allows for mutual recognition by DGCA and FAA, a big

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step forward in creating a more cost effective mechanism for procuring products in India and ensuring increased trade between the two countries.

And a fourth example of government-to-government cooperation comes under the High Technology Cooperation Group (HTCG). In 2010 the HTCG added a new sub-committee. Having been constituted in 2002, the new subcommittee dealing with aviation was created in 2010 joining other discussions on defense strategic trade, biotechnology and nano-technology.

The sub-committee on aviation met in July 2011 in New Delhi to discuss areas of mutual cooperation in airport infrastructure followed by lateral meetings held on November last year with participants from the FAA, other US government agencies such as the US Trade and Development Agency (USTDA), Overseas Private Investment Cooperation and a lot of US government entities and not to mention my own office, the Department of State and of course the MoCA and Airports Authority of India (AAI).

These are very robust discussions and through these discussions we are jointly considering efforts to promote such areas as material productions in GA aircraft. We are trying to look ahead to the study ways to simplify India's flight clearances processes for GA aircraft. We are reviewing GA importation approval processes and the Reserve Bank of India (RBI) currency restrictions. We are also working with the AAI on its proposal to the USTDA to find the feasibility study of three target airports. These are Pondicherry, Tuticorin and Jharasguda which will be the focus of the joint effort of US business and the development of India's civil aviation infrastructure. I recognize these as very exciting opportunities in the airport infrastructure sector.

Further to this we look ahead to other areas of progress for example we would encourage India's accession on World Trade Organisation (WTO)'s Agreement on Trade on Civil Aircraft called ACTA. India is an observer and not yet a signatory to the WTO ACTA and we believe joining would lead to India's elimination of tariffs on aircraft and aircrafts parts and go to further accelerate growth in this sector.

To bring industry into the dialogue, in 2007 the US and India Aviation Cooperation Program (ACP) which you are familiar was brought to being. As the initiative of US department of transportation and MoCA, ACP is the private public partnership between FAA, the US Trade and Development agency, my office the US commercial service and private US Industries together with Government of India. Today ACP has helped develop bilateral cooperation in the areas of aviation safety, standards, Air Traffic Management (ATM), GA and other best practices such as training cooperation program and reverse trade missions.

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We encourage any US companies who are not currently members of ACP to consider joining, to explore opportunities within the Indian civil aviation sector and let me publicly acknowledge IACC's efforts as the cooperator in successfully hosting ACP activities over the years. So in closing, I clearly tried to express from the US Governments perspective that we believe that the GA sector in India, in its early stages of its development, is an exciting opportunity that deserves our attention.

There are tremendous opportunities for partnerships in areas of technology, raw materials, development capabilities, international airworthiness certifications, developing skills and financing. GA supports jobs and economic growth in both our countries and the US Government will continue working with our counterparts in Government of India and cooperative organizations such as IACC to ensure the US capabilities are brought to the market in support of India's future.

Introduction:

Mr. E K Bharat Bhushan has served as Director General in the DGCA, Ministry of Civil aviation since 2010. In his capacity he is responsible for the overall supervision and financial management of DGCA and advises MoCA on all matters relating to civil aviation. He previously served as Joint Secretary and Financial Advisor of MoCA. From 2009-2010 Mr. Bhushan served as Chairman and Managing Director of National Aviation Company of India Ltd (NACAL) now Air India Ltd. Prior to his this position he served as Joint Secretary of the Ministry of Communications and Information Technology from 2007-2009.

From 1993-2007 Mr. Bhushan served in the Ministry of Commerce and Industry in two capacities, first as Director and then as Joint Secretary. In addition he has also worked as Financial Advisor to the Ministry of Tourism and held positions within the Department of Tourism of the State Government of Kerela. Mr. Bhushan joined the IAS, the Indian administrative service in 1979 from the Kerela cadre. He did post graduate work in English at the University of Kerela. He also holds a Master of Public Administration from Harvard University where he was an Edward mason international fellow.

Key Note Address

Excerpts from address by: Mr. E K Bharat Bhushan, Director General, DGCA

It is known to everyone that the schedule airlines data is available and we do not have adequate data on non-scheduled and private jets, which constitute GA, but the scheduled airlines are going through a very difficult patch. Now whatever be the reasons, from my point of view we are taking every effort to see that safety is not compromised. I mean our biggest challenge, which the Government of India is now facing because sector is predominantly liberalized, is to ensure that there is lot of growth taking

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place. But our challenge is to ensure that the growth takes place in a safe and a planned manner, this is what we are trying to do.

India is known as one of the fastest growing aviation markets in the world. With the liberalization the Indian aviation sector the industry has been gone through a transformation with the entry of the several privately owned full service airlines and as well as low cost airlines. Aviation business as we all know had faced two years of very difficult patch and now it has once again resumed its growth trajectory during the last year. At the same time, difficulties which many of the airlines are going through now, that I see. That in my view is actually is a reflection of what went on during these two years of extreme difficulty. In terms of domestic passenger volume, India now ranks 4th after US, China and Japan. For the first time domestic travel in India has crossed the 60 million mark in the year 2011, which is a 17% markup of previous year's figures. This market is expected to grow at around 10% annually to reach a level of 150-180 million passengers by 2020. Similar expansion has been seen in airport infrastructure also. The number of operational airport has increased from 50 in 2000 to 82 in 2011 while passenger-handling capacity has increased from 66 millions to 250 millions during the same period. Transport, as we all know now is one of the major drivers of economic growth. The linkage between the civil aviation sector and economic activity; and its catalytic impact on development is also well recognized. In order to spur this growth it would be essential to continue to give top priority to infrastructure, to support this growth and address important issues like taxation, input costs, security, regulation of monopolies, environment as well as issues related to liberalization.

Now coming to GA, we understand that it is the new kid under the block. In other words it's a relatively new segment of the industry in India. It facilitates emergency medical services, disaster management, off-shore operations, scientific research and security as well as law enforcement. Major reason for the rise in demand for GA is that the aircraft are no longer seen in this country as a luxury but it as a tool for increase in productivity. GA is also considered as a catalyst for the economic growth. Businesses that use GA are said to gain competitive advantage while the communities gain job opportunity and access to nation's extended air transportation system. Maximum use of GA is seen in the chartered business in India, tourism as well as off-shore operations. GA in India is a niche market, especially since it is relatively hassle free and has instant availability status. The value of additional benefits of private aircraft is that it can fly to destinations, which are not normally covered by the scheduled airlines and have access to smaller airstrips.

However, GA is experiencing a lot of constraints, which I must confess, are also rather formidable. There are no exclusive guidelines for them. The factors that inhibit growth of GA are mainly lack of infrastructure and manpower as well as several procedural issues relating to government control. There is no concept of Fixed Base Operator (FBO), Helicopters or GA terminals

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in the country. Numbers of agencies for ground handling are extremely restricted. There is no separate parking and helicopters operate out of airport. There is a much-needed focus which government of India and DGCA is now putting on the GA sector. We have recently commissioned a study with ICAO specialists to address these issues, which relate to GA in some depth. We expect to get these recommendations implemented very shortly as soon as we have had the consultation process completed.

My intention to detail these difficulties is only to bring all the facts before you. At present there is also an acute shortage of trained and skilled manpower in the aviation sector. As a consequence of which there is an unhealthy competition for employees, which is driving wages to an unacceptable levels. This is also an area, which we are trying to address. We must understand that so far as the potential is concerned the demand for business jets in the country is expected to go up by more than 10% a year in the next decade. In India, business aircrafts have continuously evolved to meet the increasing market demands for speed, comfort and with a number of high net-worth individuals (HNI). We have no doubt that business jets market will increase and jet manufacturers will be intensifying their efforts to sell more aircrafts in the country.

According to the 2011 report CAPA had stated that India's GA sector has tremendous opportunities and has projected that the industry could see new aircrafts sales that are business jets, helicopters, turboprops and piston engines of up to US dollar 12 billions over the next decade. By that time the fleet is expected to touch 2000 aircrafts. The report also estimates that the direct and indirect economic contribution of GA would be close to US dollar 4 billions per annum 2020. On the rotary - wing side, the future of India looks very promising. In a rapidly growing economy increasing reliance on air transportation and diversified terrain are all pushing the Indian helicopter market to develop at a very fast pace. It is expected that the commercial sector of corporate and VIP transport will also grow rapidly. Another area of visible growth in India will be the oil and gas industry and in order to support exploration and development of new sources, there will be a need of longer-range helicopters and which ONGC and the Ministry of Petroleum is addressing. The field of emergency medical services as operated by helicopters is also emerging as a very important growth area. In terms of fixed wing business jets statistical studies indicate that generally they are more cost effective than commercial services and hence there is this potential.

But from my point of view at the same time there is an urgent need to increase safety awareness and compliance culture in GA. This is due to the fact the GA aircraft are more at risk due to the nature of flying, VVIP carriage, infrastructural issues as well as CEO concerns. There is a need to have close monitoring of their operations and DGCA is now gearing up with this end in view and we have taken up an initiative in this regard through implementations of safety management system and their further operations. We do not only need to equip and strengthen the aero industry base to cater to the growing aircraft operations but also strengthen maintenance infrastructure. Only then we'll be able to manage the challenges and seize the opportunities that evade us.

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From the point of view of the Safety Regulator, we have a large number of issues to tackle both in terms of equipping ourselves with necessary manpower as well as training our personnel to undertake the responsibilities which are with us. These are exciting times in terms of growth but we are also extremely conscious that the growth has to be tempered in a manner, which will ensure that the safety concerns are kept in proper focus. So I would, as was mentioned by Ms Judy as well as Mr. Sarkar that we will have a lot of cooperative programs with the US government and ACP is a very successful program which has been running from the last few years. In November, 2011 we inked the BASA agreement, which has opened up several avenues for companies in both countries. Several issues have come up and I'll be very interested in knowing the results of the deliberations, which are going to take place here so that we can take it forward.

Introduction:

Mr. Atul Sharma, Managing Partner Linked Legal a corporate and commercial law firm with offices in Delhi, Hyderabad and Bengaluru. Mr. Sharma has almost 30 years of experience in corporate litigations, mergers, acquisitions, project finance, business restructuring, intellectual property, securities and capital markets and commercial transactions. He specializes in infrastructure and aviation and has representative clients in all aspects of commercial and day-to-day operations. From bidding to implementation Mr. Sharma serves as an advisor to the consortium responsible for developing the new Hyderabad International Airport. He is currently advising the consortium involved in the upgrading and modernization of the Delhi airport. Mr. Sharma has also been involved in advising the promoters for upgrading Sabiha Gokcen International Airport in Turkey on matters relating to engineering, procurement and construction which is Execution Planning & Commissioning (EPC) contracts, project financing and commercial concern contracts.

Excerpts from address by: Mr. Atul Sharma, Past Regional President IACC

We do hear day-in and day-out about the difficulties that the scheduled carriers are facing in this country. Of course the reason is that the scheduled carriers have a large public interface in everything they do and what they don't do is in the limelight in some form or the other. But so far the aviation in this country is concerned I believe it is time that the GA also get its due because all the policies, guidelines are currently and in fact for the last many years have been driven by the requirements of the scheduled carriers. And it is time that we really move from a position of just taking care of scheduled carriers because everything in scheduled carriers is substantially more or less standardized and GA also has a much wider implications for the business and industry as a whole,

even including manufacturing for that matter. This is the only observation which I have felt was very relevant, and GA has to get its due in terms of what it can do for the development of aviation.

TEA BREAK

Technical Session 1: GA Infrastructure

Introduction:

RAHI is a pioneer in the development of Greenfield projects, airports and associated GA services. RAHI's prime focus is on aviation infrastructure, allied air services and geo-specific industry clusters. Mr. Umesh Baveja has over two decades of experience in contractual and financial structuring of infrastructure projects. In addition to his role at RAHI, he serves as Director of Comet group of companies, which operates in the infrastructure development sector. His previous positions include Vice-chairman, Cairn Energy, Director-India, Asia Power limited and Country Manager Kavaner Energy. Mr. Baveja graduated from the Management Studies faculty of the Indian Institute of Technology, Delhi, and faculty of Law of Delhi University. He is the founder of South Asian De-metrolization Initiatives (SADI), a voluntary organization committed to evolving a more balanced efficient and sustainable society by the promotion of de-metrolization.

Session Chair: Mr. Umesh Baveja , Chairman RAHI

Introduction:

We are going to start with Inderjit Singh who is from Scott Wilson. He has had couple of decades of experience with the Airports Authority of India, ICAO, The Dubai Aerospace Enterprise and is currently the Head of Aviation with Scott Wilson. I will now hand it over to Mr. Inderjit and we will then further introduce the topic as we further go along and hopefully we will have some time for Question and Answer at the end.

Low Cost Airports: Soaring over infrastructure bottlenecks:

Excerpts from address by: Mr. Inderjit Singh, Associate Director & Head Aviation, India, URS Scott Wilson India Private Limited

Let us have a quick look at 1945 when there were 9 millions passengers globally traveling by air which was less than half percent of the then world's population. Mind you just 9 million in one year. Fast forward to 1995 we have 1.3 billions passengers, which is 3.5 million a day where it currently equals to which was 25% of the world's population. Move over to 2005, 4 billion passengers which is 10.5 million a day vis-à-vis 9 million in one full year handled by the world's airports, airlines and aircrafts and that was 65% of the total world's population and that too against a backdrop of negative aspects such as terrorism, the 2nd Gulf War, 1911, SARS, Avian Influenza and Soaring costs

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on jet fuel. In the year 2015 we are estimating that there will be 8 billion passengers criss-crossing the airports all over the world with 21 million a day which would be 130% of the projected world population. So it is established that aviation, air traffic is there to stay and we better get ourselves geared up and create a robust infrastructure to face the consequences.

There are Airlines, Aircrafts, Global CNS/ATM systems, Air Traffic Control, MROs, legacy carriers, hybrid low cost carriers and low cost airports and many more. I have just highlighted a few. But you see they are all linked with each other. So it is a global chain whether you take it at a regional level or national level or global level. There is nothing like Indian aviation or Korean aviation or American aviation. We are all part of one large link. Something goes wrong in UK if there is snow and everything comes to a standstill, all the aircrafts are held up there, not our but from all over the world. If one link of the chain snaps, the entire aviation system tends to collide for that particular moment. That now at a national level we would say all these things are part of that chain. As Mr. Baveja said that I have been a part of the AAI and I was the chief executive of Delhi airport on two occasions and I realized that we are all here from the aviation sector and there is no hiding it. When I was a government servant I was very careful in what I have to say and I will still be careful but one can be a bit more candid. The point is that when there was this rush for picking up aircrafts, we all ran, almost all airlines wanted to buy aircrafts in dozens. When it came to privatization of airports, we all started privatizing airports without understanding the consequences of that in the long run. Most of the airlines today are suffering today because we picked up so many aircrafts. I like what they do in the developed world because we are looking to emulate some of the good points. They say that for every one dollar spent in aircraft purchase, 50 cents should be set aside for aviation infrastructure. Not necessarily swanky, good looking buildings but the Air Traffic Control (ATC), the runways, and what happens behind the scenes and is not to be seen always by the passengers only.

I wonder when we went and bought so many aircrafts whether its Air India, Indian Airlines or Kingfisher or whatever, the point is did we think that there would be enough infrastructures to sustain this kind of purchase or should we go slow or just go together. There was a rat-race going on and I always feel that in a rat-race even if we come first, we are still rats. So there is no point getting into a rat-race. We need to take a long-term view and see as to how we can sustain what we are buying today, not for 1 or 2 years but for 15 or 20 years. A little more analysis and how we should be going around doing things. Now today's discussion is centered on GA which is definitely a priority sector in today's context. The other scheduled commercial aviation, probably having reached to a particular peak. Now is the time to divert our attention to GA. So the majority of the world's air traffic falls into this category. Most of the world's airports exclusively serve GA. Just to give you an example there are 532 airports in the US handling commercial and there are 5032 handling GA so if you were to look at the infrastructure in GA, it is 10 times more in the US alone in handling GA. So there is no doubt about GA not being a priority area. It is a priority area. It is unfortunate and ironically as I said

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GA up till date has been largely operated in the shadow of scheduled commercial aviation. It is the scheduled commercial aviation that has been in the heads of people, in the government and as I have said in the beginning, the topic was about soaring over infrastructure bottlenecks. It was to say that the bottleneck, whatever be the shape of the bottle- big or small, the bottleneck is always on the top.

Without reflecting on anybody on the top I want to say that our government should be aware of the significance of this sector (GA) and try to promote it as much as they give a thought to scheduled commercial aviation in the past. The neck of a bottle is to regulate the flow of fluid. It is not to stop. We remove the cork, so that it can flow in a particular direction. That is where the regulator comes in or the AAI comes in.

No particular agency to be named; but it is not one body of the government alone that regulates aviation in India. There are many other ministries that also contribute to the overall development. The fleet in India is expected to reach 2000 aircrafts over the next decade up from 680 aircrafts today at a cost of \$12 billions. When we take a cue from \$12 billions, is the government willing to think that when purchases are made for 12 billion, do we also possess 4 or 5 billions for airports to receive these aircrafts, park them, service them maintain them? Are we geared up for all that? It should not be another rat-race for GA to keep on buying more and more aircrafts and land up in the same thick soup which the scheduled commercial aviation has landed up in.

We do believe that things will improve as this yo-yo has been going on all over the world and India has much of resilience to bounce back. We have gone through so many crises in the past. But fortunately due to our policies and other things, we always bounce back in a big way. The focus should be on two critical aspects- reliability and cost effectiveness, which is a case for low-cost airports.

There is a thin-line between GA and scheduled commercial aviation where the latter also does the former's business. A small number of large Jets vis-à-vis a large number of small Jets in GA. So, the Airbus A380 with 853 customers all provided with the exact same travel experience whether it is economy or first class. All of them are exposed to a certain type of flying in the A380. But in this case each customer is provided with a personally tailored travel experience.

Low-cost airports versus conventional airports: low-cost airports should be minimal where as our conventional airports are extravagant and they are world-class. Sometimes I wonder if there is anything like world-class, that in the name of world-class sometimes, we build Taj-Mahal, which we don't know and we don't need also at times and we suddenly realize that was there a need to make such a lavish airport such that tomorrow I need to ask for User Development Fee's (UDF) not for today or tomorrow but for eternity. Should we do this or follow the old idiom saying "less is more"? From minimal you make the maximum.

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Six points are that we can actually think of selecting point-to-point versus hub and spoke development. Our metro airports are on hub and spoke so we could possibly go for point- to-point as that becomes cheaper, small aircrafts can fly on those routes. Traffic strategies should be made in consultation with low-cost carriers. Now we build airports not having any dialogues with airlines. I think airports and airlines are two sides of the same coin. They are inseparable. But ironically they look in two different directions. Hence there is a need for an open dialogue.

Finding a niche in the airport industry is to remain competitive focus on tapping connectivity between tier-II and tier-III cities. That's where the business of GA will come up in a big way. Expanding customer reach to increase passenger numbers, instilling operational agility and streamlining cost competitiveness. Operational agility is probably most important. I had this opportunity of working at the Delhi Airport and we were exposed to the several operational things and we thought there was a lot of duplicity. Hence when we develop small low cost airports we have to be careful of that. Adding efficiency and reducing redundancy and enhance commercial activities to subsidize the airport operations as the small tier-II and III cities would have enough land as compared to Delhi and Mumbai airport. There would be a choice of developing commercial activities that generate money that we can plough back into the airport and make them sustainable.

Optimized operations at low costs and a pragmatic visionary approach would necessarily give us low cost airports that would help us in sustaining the traffic growth. At the end of this presentation we are left with as many questions as there are answers. It is my strong conviction that it is better to debate a question without instantly settling it than to settle a question without debating it. The best would be to debate an issue, conclude and decide a road map.

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Indo- American Chamber of Commerce (IACC)
&
US-India Aviation Cooperation Program (ACP)
“General Aviation: Opportunity and Challenges”
PHD House, New Delhi - 9th February 2012

**Low-Cost Airports:
soaring over infrastructure bottlenecks**

Inderjit Singh
Associate Director & Head, Aviation
URS Scott Wilson - South Asia

Slide 2

Dynamics Of Global Air Traffic

- 1945: **nine million** passengers globally traveled by air, less than **1/3 %** of the then world's population.
- 1995: fifty years later 1.3 billion passengers (**3.5 m a day**) were carried, equivalent to **25%** of the world's population.
- 2005: 4 billion passengers (**10.5 m a day**) handled by the world's airports, airlines and aircraft - 65% of global population, and all this against a backdrop of negative aspects such as terrorism, the second Gulf war, 9/11, SARS, avian influenza and soaring cost of jet fuel.
- 2015: estimated 8 billion passengers (**21m a day**) - **130%** of the projected world population.


● ***Need for a Robust Aviation Infrastructure***

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Slide 3

Components of Aviation Infrastructure

Metro Airports Airlines Aircraft Global CNS/ATM ATC MRO
Legacy Carriers Hybrid Low-cost Carriers Low-cost Airports
(Aviation is not Area Specific-National or Regional; it is Global)



● All links of a global chain. One WEEK link and the chain SNAPS

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General Aviation- a priority sector


- The majority of the world's air traffic falls into this category
- Most of the world's airports exclusively serve general aviation.
- Ironically GA has until date operated largely in the shadow of scheduled commercial aviation.
- General aviation (GA) is a high-growth segment in India-business jets, helicopters, turboprops and piston engines
- GA fleet in India is expected to reach 2,000 aircraft over the next decade, up from 680 today at a cost of US\$ 12 billion

● **Focus on two critical aspects: Reliability and Cost-effectiveness—a case for Low-cost Airports**

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A General Aviation Feature: personalization versus mass customization
(General aviation vis-à-vis scheduled commercial aviation)



The Airbus A380

- A small number of large jet
- 853 customers all provided with the exact same travel experience



The HondaJet

- A large number of small jets
- Each customer provided with a personally tailored travel experience

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Low-Cost Airports versus Conventional Airports
Minimal (Less is More) Extravagant (World Class)

- Selecting point-to-point versus hub & spoke route development
- Traffic strategies in consultation with low-cost carriers (LCCs)
- Finding a niche in the airport industry to remain competitive
- Focus on tapping connectivity between Tier II & Tier III cities
- Expanding customer reach to increase passenger numbers
- Instilling operational agility and streamlining cost competitiveness
- Adding efficiencies and reducing redundancies
- Enhance commercial activities to subsidize airport operations

● **Optimized performance at lower Costs**
- a pragmatic visionary approach

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Slide 7

**INNOVATION IS IN
TEXTBOOK SOLUTIONS ARE OUT**

- To anticipate recognizable changes in the industry
- Optimum utilization of existing infrastructure
- Limit over-capacity by a careful evaluation of demand
- Managing cost and maximizing value
- Achieve energy efficiency : use of environmentally sensitive materials
- Integrate security-related aspects in the basic design
- Open up a two-way dialogue with all the stakeholders

● *Focus not on aviation planning, narrowly conceived, but on
Aviation Systems Planning*

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'At the end of this presentation we are perhaps left with as many questions as there are answers or more questions still to be answered. It is my strong conviction that it is better to debate a question without instantly settling it than to settle a question without debating it'

Thank You

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Introduction:

He has left us with some philosophical points. Just a couple of comments on that I saw the reference to low-cost infrastructure and there's absolutely nothing as low-cost when it comes to GA airports. We are completing one new and another by the end of the year. The runway is of 2000m by 45m (probably 1/5th the cost of what it's like in Delhi or Mumbai), the terminal building is in proportion to the expected traffic. But we would be happy to see a 1,00,000 passengers go through the Gulbarga terminal over the next one year. The smallest AAI airport sees about 60,000 passengers currently. So that is just one of the many challenges that I will keep referring to in-between the excellent presentations that we have from the speakers Thank you again, Mr. Inderjit, for giving us a perspective which comes with your AAI experience, the airport Directorship at Delhi and your experience with ICAO as well as that of Dubai Aerospace Enterprise.

Talking about infrastructure I think no panel discussion can be complete without having the biggest brother of airport infrastructure, is Airports Authority of India. Mr. Jain has served with various aspects with respect to Radar control, been with the Indian MET department for 8 years and has not only served Delhi airport but also tier-II and tier-III airports. We are likely to see more GA airports come up in these cities. He has served in Nagpur and Varanasi Airport and had a stint at the Civil Aviation Training College (CATC) at Allahabad. So without further ado I would like Mr. Jain to share his perspectives on GA infrastructure not the least because AAI has the widest banks of such infrastructure available in the country.

Separate procedures and routes for GA

Excerpts from address by: Mr. A.K. Jain, General Manager, Airports Authority of India

AAI has a total of 126 airports where AAI is managing 14 international airports, 9 custom airports, 85 domestic airports and we have 26 civil enclaves. At 6 airports we provide CNS/ATM services. For our operational and planning purposes, we had divided airports into various categories. First, where aircraft movement is more than 500, there are two airports in this list- Delhi and Mumbai, second, when the aircraft movement is from 200-500; we have 4 airports- Kolkata, Chennai, Hyderabad and Bangalore. These 6 airports have been identified as the major airports in India.

Third category is where aircraft movement is from 75 to 200, 6 airports are there; for less than 75 aircraft movements- 24 airports are there. Remaining 90 airports are where movement is less than 20. This is how we have defined the classification of airports and working accordingly to provide infrastructure at these airports. Total airspace available with AAI to provide air traffic control services is 2.0 billion square nautical miles. Out of this, oceanic airspace is 1.7 billion square nautical miles; continental airspace is 1.1 million square nautical miles. This total airspace is divided into 4 FIR's and

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Five Air Defense Identification Zone (ADIZ). Our airspace is surrounded by 12 countries- Pakistan, Oman, China, Mogadishu, Seychelles, Male, Mauritius, Malaysia, Sri Lanka etc. We have total 244 ATS routes (Air Traffic Service). International ATS service routes are 88, domestic ATS routes are 124 and conditional connecting routes which we started recently are 32 air routes. In these figures, helicopter routes are not included which we have designed for a few airports. Entire airspace is divided into two categories RVSM airspace which is oceanic, Non-exclusive RVSM for continental airspace.

GA means private aircrafts, aircrafts owned by the companies, flying club aircrafts, small taxi operators and helicopters. As far as ATM is concerned, we have no separate procedures for GA aircrafts except routings for helicopters which we have designed for Delhi, Mumbai and Bangalore airports. There is no restriction on movement of GA aircrafts from ATM point of view at airports except for Mumbai airport where restriction is during peak hours. All arrival and departure procedures are the same for GA aircrafts and scheduled airlines. These procedures are designed based on ICAO criteria, Doc 8168. On the basis of this, we are designing the procedures for both the categories of aircrafts.

There are two exceptions only otherwise there is no distinction between the GA and scheduled aircrafts. These two exceptions are that GA aircrafts are normally parked at a remote parking to facilitate the movement of scheduled aircrafts, because sometimes GA aircraft are staying at the airport overnight so they have to be parked at a remote parking place. But again, if there is a requirement that VIP or any aircraft is coming for short duration, we are parking the aircraft near the parking stand close to the terminal building. Second exception is for the aerodrome operating minimum; this is from the operations point of view. As per DGCA, approved minima; restricted minima has to be followed by the GA aircrafts which is higher than the scheduled airlines minima.

These are the initiatives that AAI is taking, about the infrastructure to deal with more and more aircraft which GA and scheduled airlines are being purchased.

First is Air Traffic Flow management (ATFM). This already we are working with FAA (US) and which will be implemented by December 2012 at 6 major airports which we have identified where aircraft movement is more than 200. We are developing Performance Based Navigation (PBN) based SIDS and STARS for all major operational airports. This will help expeditious movements of aircrafts. Automation of ATC systems not only at the major 6 airports which we have identified, we are also going ahead with automation of ATC system of 38 airports which will be operational by June this year.

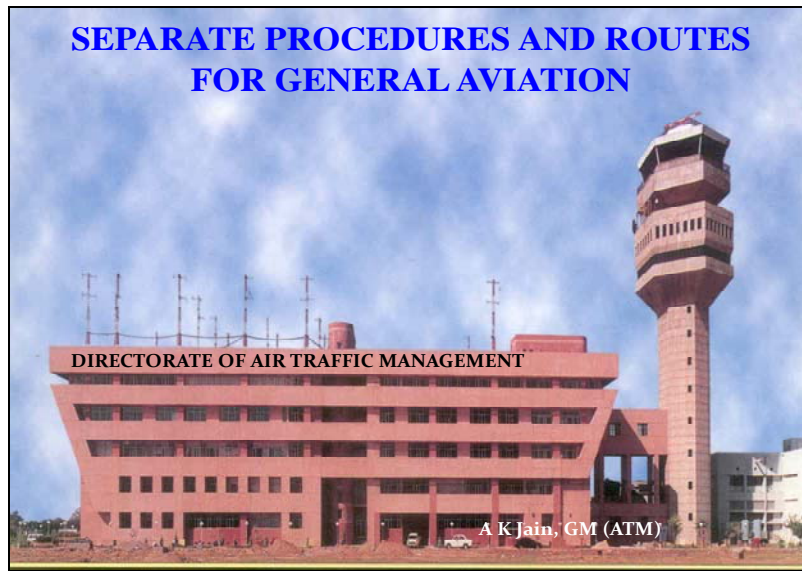
Another prestigious project that is GAGAN, the satellite based augmentation system. With this we can maintain separation between incoming aircrafts and the separation in the terminal areas and en-

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route also. This project will be in use by June 2013. Another initiative is a clearance delivery through data-link. This will reduce the Radio Telephony (RT) congestion. We are going ahead with the integration of RADARS which are available all over India will be integrated to provide RADAR separation to reduce separation and accommodate more and more aircraft in the same airspace. Latest technology is ADS-B which we will be installing in 14 locations; Port Blair is one of the locations where we are going ahead with the ADS-B. This is a surveillance tool that will help us with seamless operations and reducing separations. We have spoken about the ATS routes where we having; 244 new Route Navigation (RNAV) based Air Traffic Service (ATS) routes which we are implementing between Delhi and Mumbai. This is the 7th busiest corridor in the world. In this sector we are implementing RNAV-5 probably by May 2012, where the separation between two adjacent routes is 30 nautical miles and longitudinal separation will be 50 nautical miles. So we will be able to accommodate more and more aircrafts. Last is the merging of Area Control Centers and harmonization of our upper airspace. At present we are having 11 Area Control Centers through which we provide the en-route service to the over flying aircraft and which are transiting from one airport to another airport. We have already integrated and harmonized the upper airspace in Chennai FIR. This is already operational. A RADAR service is provided from Chennai itself over the Mangalore, Thiruvananthapuram, and Bangalore. So at all these airports we provide RADAR services from Chennai itself. So this is a picture that shows that RADARS plus ADS-B, this will be the coverage and from this we can see the entire continental airspace is covered by RADAR or ADS-B that means surveillance will be available over the entire continent airspace. We can reduce the separation to RADAR separation of 10 nautical miles. But initially with the latest ATS routes RNAV-5 and ultimately RNP-4 route we are planning to reduce the separation to 30 nautical miles. Again this will help the schedule as well as GA aircrafts to go for an economic level; they can climb to a higher level as presently they are restricted to a lower level. Hence their movement can be faster. Now with all these initiatives that AAI is taking to modernize the ATC systems, provide RADAR control, reduce separation etc and provide the GAGAN's satellite based augmentation system etc.

GA operators, this is an expectation from AAI that they will upgrade their aircraft equipments, train their pilots and get the approval from the regulator to fly the RNAV procedures and the RNAV routes, to take full advantage of the initiatives that AAI has taken.

Slide 1



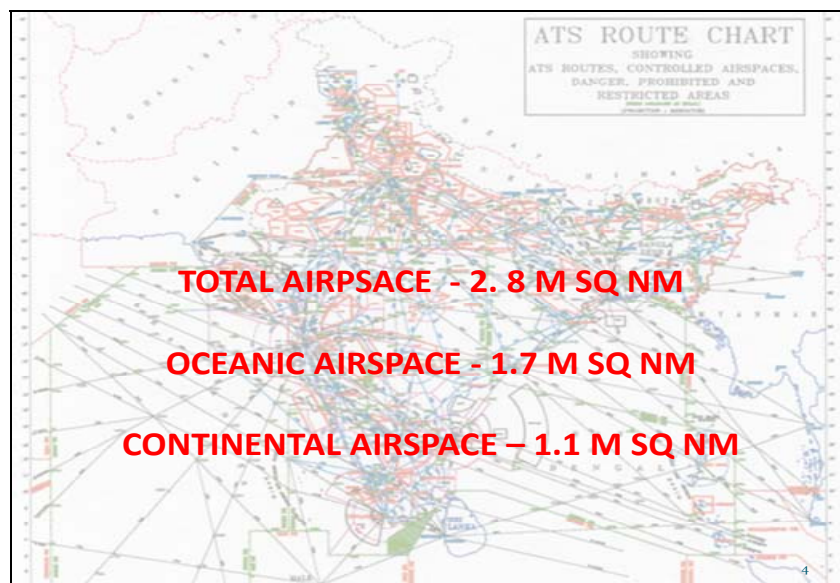
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Slide 3

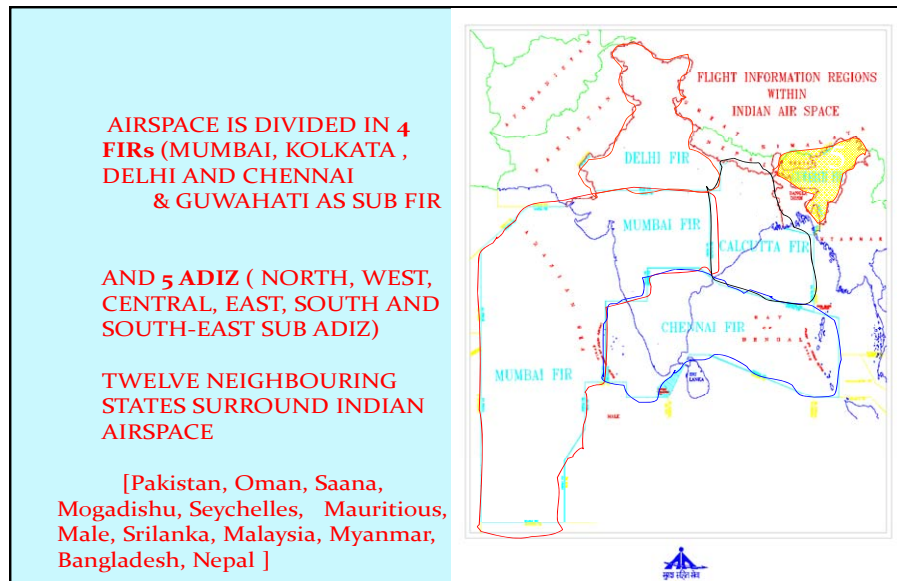


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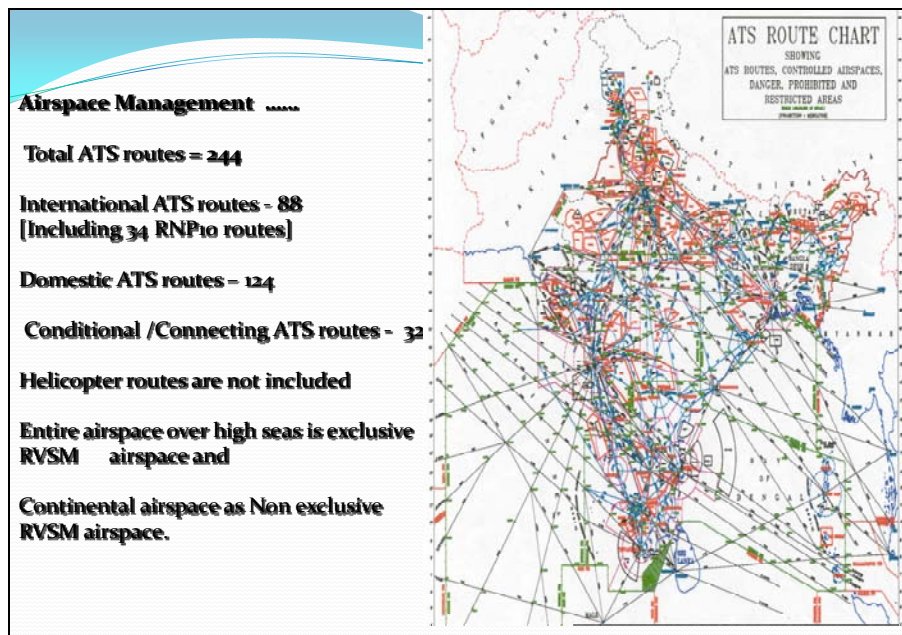


Slide 5

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Slide 6

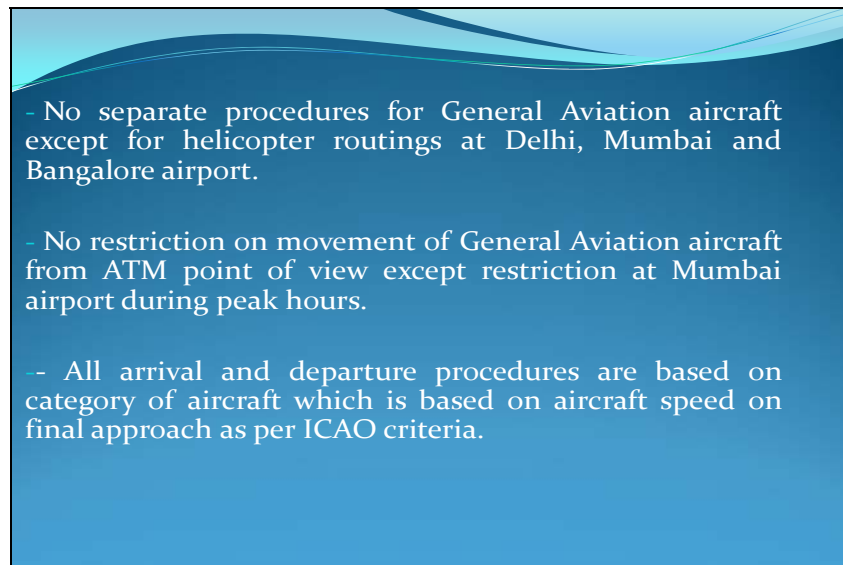


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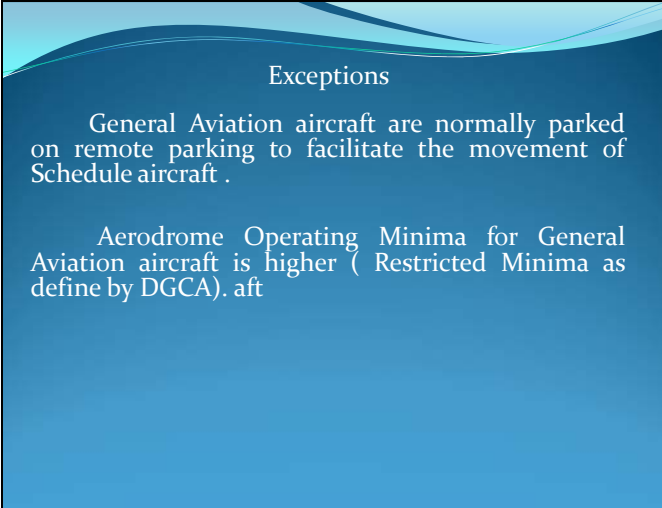
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Slide 8



Slide 9



Exceptions

General Aviation aircraft are normally parked on remote parking to facilitate the movement of Schedule aircraft .

Aerodrome Operating Minima for General Aviation aircraft is higher (Restricted Minima as define by DGCA). aft

Slide 10

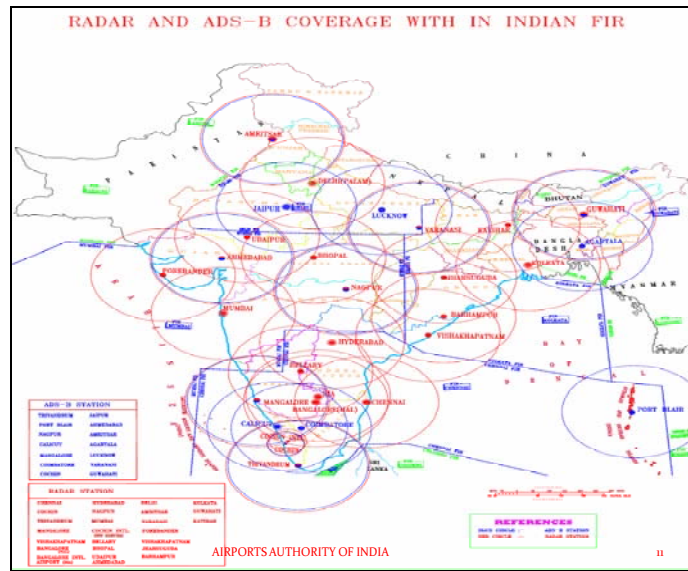


AAI UPCOMING INITIATIVES

- Air Traffic Flow Management (Dec 2012)
- PBN SIDs and STARs at all major airports
- Automation of ATC system at 38 Airports (June 2012)
- Satellite Based Augmentation System (SBAS) – GAGAN (June 2013)
- Clearance Delivery through Data Link
- Integration of Radars
- ADS(B) at 14 locations to cover Radar Gaps.
- RNAV 5 routes, First route will be between Delhi and Mumbai.
- Merging of Area Control Centers and Harmonization of Upper air space
-

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Slide 12

General Aviation Operators

- To upgrade their aircraft equipage
- To train pilots
- Get approval to fly RNAV procedures / routes.

to take full advantage of AAI initiatives.

Slide 13



Introduction:

Mr. Andrew is from the Washington Consulting Group (WCG), USA. He will talk about the experience he has gained in the US and laterally in Iraq with respect to ATC procedures and hope there are some tips that we can pick up from there.

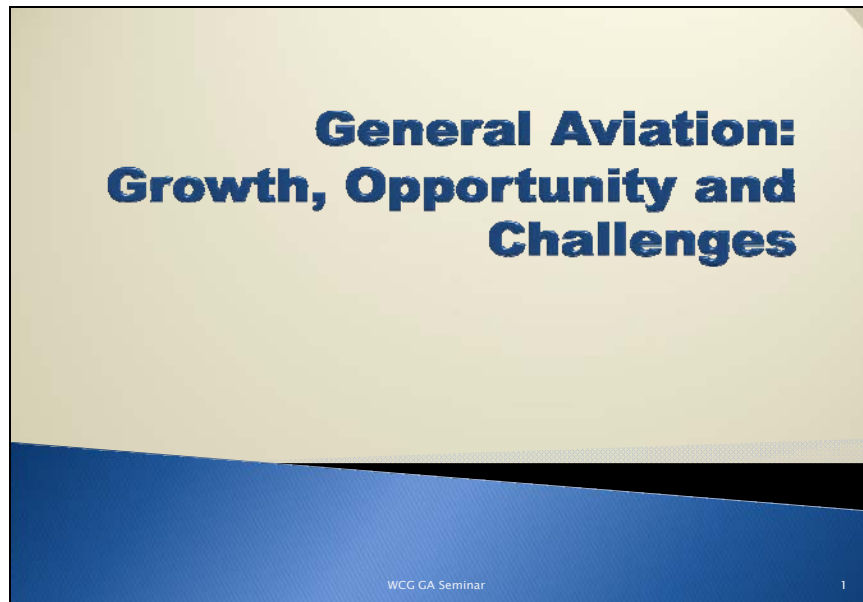
GA Procedures

Excerpts from address by: Mr. Andrew Kalnoske, Washington Consulting Group

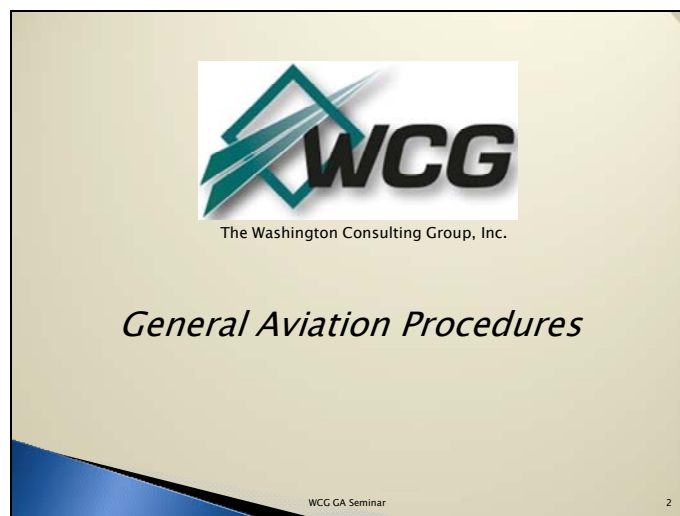
The Washington Consulting group has been in the Air Traffic Management (ATM) business now for about 25 years. We provide a lot of Air Traffic Control (ATC) training; we also provide training in what we call a flight service aspect in the United States. Those flight service people provide services to GA pilots and aircraft owners in the US and are somewhat separate from ATC which is going to be very important in the Indian environment. Because the ATC system here is getting to be somewhat overloaded. GA, what I would like to say is, **GO ANYTIME, GO ANYWHERE**. But there are going to be restrictions on that. There are constraints in infrastructure, as we all know, procedures that will have to be detailed as the clientele grow. And for the involvement of the ATC at all juncture be it VFR or IFR. GA is regarded as a catalyst for economic growth. This has been highlighted several times by most of the speakers here. It gives business a competitive edge; it gives the smaller communities jobs and access to the air transportation system that they've never had before. GA can have access to about 400 airstrips in the Indian FIR but only 90 are operational right now. With new procedures and infrastructure, the number of these available fields can be increased but thereby can

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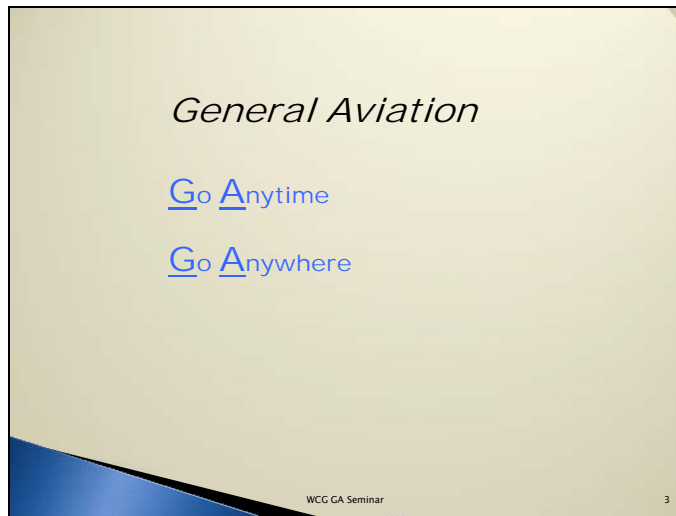
have a large increase in demand of services such as First Person on the Scene (FPO's) and also in the ATC system itself. The thing we recommend for the Indian environment as a separate service be it under the AAI or another organization or entity to set up for GA aircrafts and pilots. Information, flight plan, weather data sharing between the GA service and the ATC and also to be automated is going to be very important. Discreet frequencies, toll free numbers to GA pilots should have open access and ready access for this information. Safety and services are basically the two corner stones in the GA for procedures and under the services you have briefing and some Public Information Resources Access Program (PIRAPS). Safety is basically to notify and provide search and rescue in case of a timely issue. To notify medical ambulance service providers in time of injury, and a seamless handling by the ATC with IFR flight plans. There also may be a need as the GA number of aircrafts increase that ATC personnel have to have some type of refresher training in order to be able to know the performance characteristics of several types of aircrafts that are coming into India and as it diversifies, so that they will be able to handle and be well aware of the different characteristics. Services, pilot weather briefing, surface observations, RADAR observations, satellite observations, forecasts need to be given to pilots during these briefings. The ability to have flight planning, filing and closing of flight plans is going to be very important. Airspace status especially in the Indian environment such as military operations and restricted airspace is going to be very important. The ability to be able to have an entity give real time information to a GA pilot either prior to take off or the en-route phase of flight, to be able to say whether an area is active or inactive will help not only in fuel conservation but also ATC workloads. The pilot briefing should provide an overall weather picture from basically the beginning, the departure, the arrival airport and also include alternate airports. Any adverse conditions such as weather or icing, airport closings can be included. For VFR and IFR flight, flight recommendations or doubtful flight can be made in the forecast and can be given to the pilot. However the critical decision maker is always going to be the pilot in command. Additional items includes items such as airport status, flow control restrictions as is highlighted between Mumbai and Delhi airports for the pilots to know as they prepare for their departure. Another important part is the PIRAPS. The ability to get information from all the pilots especially the GA cloud heights, visibility, turbulence setter is important and is disseminated from the entire system. That way GA and commercial carriers can have access to that same information. Going to conclude with the government support in way of user friendly regulations, assistance with infrastructure in partnership with private companies and inclusiveness in the aviation marketplace GA can make a vital contribution in the Indian economy.



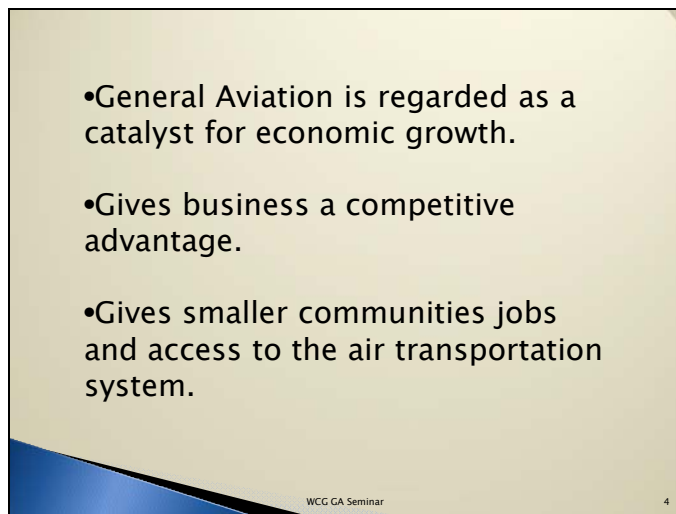
Slide 2



Slide 3



Slide 4



Slide 5

GA can access over 400 airstrips
in the Indian FIR*

*(Only 90 are operational at this time) 23 Dec 11

WCG GA Seminar

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Slide 6

Recommended Procedures for GA for continued growth

A separate service (under the AAI or other organization) to be setup for General Aviation aircraft and pilots.

Information/Flight Plan/WX Data sharing between this GA service and ATC (automated).

Discrete frequencies and toll free phone numbers for GA pilots.

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- Safety
- Services
 - Briefings
 - PIREPS

WCG GA Seminar 7

Slide 8

Safety

- To notify Search and Rescue Services in a timely manner in case of need.
- To notify medical and ambulance service providers in time of injury during a crash or other emergency.
- Seamless handling by ATC with IFR flight plans.

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Services

Pilot Weather Briefing, surface observations, radar weather observations, Satellite weather observations and forecasts.

Flight Planning, filing and closing.

In flight weather, airport services availability.

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Airspace status such as Military Operating areas (MOA), Restricted airspace areas (time and altitude of operation).

WCG GA Seminar 10

Slide 11

Pilot Briefing –Provides overall weather picture, should be used in Flight Planning. Contains adverse conditions such as weather or icing, airport closings. Flight not recommended or doubtful flight can be made in forecast weather. Additional items included such as airport status. Flow control restrictions, if applicable.

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PIREPS – Solicitation of weather reports from pilots as to real time flight conditions in the air, e.g.; cloud heights, visibility, turbulence location, location of wind shear, icing conditions.

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Conclusion – With government support in the way of user friendly regulations, assistance with infrastructure and inclusiveness into the aviation market place, GA can flourish and make a vital contribution to the Indian economy.

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Introduction:

Mr. Ravi Radhakrishnan is member of business development team at Reliance Infrastructure which has portfolio of more than Rs. 4000 Crores of assets, a very small portion of which is 5 airports that they acquired from the Maharashtra Industrial Development Corporation (MIDC) in 2009. All of these 5 airports were operating airports, two of them are licensed and one of them actually has two scheduled airlines flying, that is Nanded. Ravi shares his experiences in what we would probably classify in private GA airport and some tips to go about in expanding the GA infrastructure and services in the country.

Experiences of running a Low Cost Airport

Excerpts from address by : Ravi Radhakrishnan, Reliance Infrastructure Private Ltd

It is going to be more like a first hand account of an organization which has been operating five airports caters primarily to GA and business aircraft; we have been doing that for about two years plus now. So I shall endeavor to give you some of the insights that we have gained along the way. I'm referring to the business of going into the secondary airports in tier-III cities. Because that's the path, in which not many large corporate have treaded in India so far. The reason is that these are assets whose economic viability and sustainability is something yet to be seen and that is where the greatest challenge lies. In as much we upgrade these facilities and endeavor to provide the best of the facilities that are required by GA and scheduled airlines while at the same time try to conform to all the stringent requirements that the regulator lays down.

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So given the growth story of GA, people have estimated that in the next 10 years we are going to add another couple of thousand aircrafts to the fleet. So it has come out time and again that infrastructure is indeed one of the biggest bottlenecks and one of the main components of this bottleneck is of course infrastructure on ground. In the air, yes there are issues; in which Airports Authority of India is well placed to handle and they are doing their bit. But on the ground there whole lot of issues and that's where requirement of decongesting and dispersing from Mumbai and Delhi comes in.

At the moment, the tendency that we see is for everybody to be confined to Delhi, Mumbai and the bigger airports. But going forward the kind of fleet expansion, as the regional economy and the local economy of the hinterland of India develops which we see happening in a big way and that's the reason we are in this place. Enhancing regional connectivity is a huge growth opportunity. Both scheduled airlines that are coming in with smaller aircrafts; that is of course the crying need of the hour. Some airlines have gone in for 72-78 seaters aircraft like the bombardier Q400s. As we move forward perhaps there will be more regional airlines with more non schedule services that provide connectivity between tier-II and tier-III cities.

As we do this, there will be requirements of more flight schools, for more MROs which cater specifically to GA, FBOs and such like. So that's where we feel the utility of tier-2 and tier-3 city airports such as ours comes in. For one, there is a respite from the exorbitant premium on land which one has to pay at the larger airports. As mentioned earlier, there is decent amount of land available at these places for people to setup hangars, MROs etc at fraction of cost of perhaps that would take in Mumbai – Delhi or any of the bigger airports.

So just to give you the snapshot of our airports, Nanded is one which is licensed which has two scheduled operators. One has moved up and the second one is coming in very soon. This is licensed and is night IFR equipped airfield. Others are all airstrips which are more day operation VFR. But the patrons are primarily GA aircraft. We have 500 to 600 movements in a year. They are quite vibrant though at times they appear to be barren patches of land in the middle of nowhere but they are pretty vibrant and I invite each one of you to come and visit some of these. There is seasonality in GA operations, particularly those which are patronized by the political class. Election season is a peak and that's when our small terminals buildings and infrastructure are put to test.

So out of these five, I will just name them once again. Apart from Nanded, there is Latur, Baramati, Usmanabad and Yavatmal. We have two flight schools already. One is operating at Baramati. So what are the kinds of activities we promote in these airfields? These are things that you cannot do at the larger airports. So with one flight school in operation and the other one has already come up with hanger and the aircrafts. We are also promoting sky diving and aero adventure activities

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at one of these places. We are in advanced stages of talks in getting our clearances from DGCA and things like that. And also somebody is setting up a MRO exclusively for GA aircraft's at Baramati.

While the location, is just like someone said, in the real estate scenario there are three things which are of utmost importance LOCATION, LOCATION and LOCATION. So I think that apply to this business as well. While they seem to be in proximity to city like Mumbai or Pune, but at the same time from our experience we found that say an High Net worth Individual (HNI) from Mumbai that owns a business jet he wants it right there so whether he has to pay extra or whether he has to bend the rules and do an unauthorized parking somewhere in Mumbai or Juhu. They will much larger prefer that then driving a couple of hours to a secondary airport where he can park his GA assets. So hopefully that will change with time as the regional economy develops, as social infrastructure at this destinations improve and as the facilities that we want to provide at these smaller airports improve.

Let me just touch upon some of the real challenges that low cost airport operator or a regional airport operator faces. First and foremost, as I mentioned earlier the major impediment in making these economically vibrant and self-sufficient entities is the cost structure. Now as the private airport operator there are certain activities which are reserved activities like security, air traffic services, MET. Even for a small private airport, even if you want ATC, any general airport operator who wants to operate your airport would prefer having a controller, having a NAVAID there but these are reserved activities. You may own the land and you have to maintain the runway but if you want any of these things you have to go to the Airports Authority of India(AAI) and the policy in the country today is if you approach AAI as a private airport operator they will say OK or fine , we will provide this you get into a MOU with us but it is on a 100% cost recovery basis. So that small airport operator has to pay all the bills of AAI, so AAI has de-risked itself completely as far as economics is concerned. They would position 2 or 4 people there and the NAVAID, It's the private operator which is coughing up every rupee for that.

Similarly security, it is essential I'm sure it's going to be an issue in the days ahead also as people takes-off from all the small airfields. Today it's the state police which are providing security in most of the small airstrips but going forward it might be Central Industrial Security Force (CISF) as in the other airports. That is a huge cost that also is passed on to the airport operator.

Similarly, if you need MET, and then again, any general airport operator would prefer MET. Again India MET Department will provide everything but at a cost. All these cost add up and that's what is threatening the whole economic sustainability of these ventures. Of course one needs to look at other non-aeronautical sources of revenue, one need to look at commercial exploitation of land. There again exploiting land commercially in a tier-III city in the hinterland of India is not the same as in Delhi or Mumbai. So these are some of the challenges and it's an ongoing effort which many like RAHI and us will continue persisting with the policy makers of the government. And we hope that

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with the cooperation and support of our clients which is GA operators we make progress in the years ahead.

Questions and Answers

Question 1:

I' am **D.P Singh**. I am Executive. Director, Corporate Planning in Airports Authority of India and presently I am working with ICAO expert panel for GA. Honestly we came with the expectation that the speakers from GA will be there. There are seven major GA operators and none of them is available here. Anyhow GA has basically different problem than scheduled operations. As per ICAO Annex -6 GA is defined as operations used for specialized services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue, aerial development.

The fleet classification is 308 the training fleet, 154 business aviation and 39 government and 8 aerial work fleet, Basically the problem is, there are large number of general operators, around 133 Non-Scheduled Operators and 175 others. So total very large number of GA operators and all of them except Pawan Hans, is loss making but they have business other than aviation business also so they are subsidizing the GA operation from their other business that is the status. As far as current scenario is concerned, AAI is almost providing free service to them. There is no landing charge, air navigational and parking charges are very nominal, Rs. 60 for 24 hours is the fees for GA parking charges which is cheaper the car park. Major airports like Mumbai, Delhi or other metro airports, discourage GA reason being because they are not paying anything or they are paying nominal charge. When we ask the general operators to pay they say we are still in loss and if these charges are levied we will further be in loss. I don't know but we have to find ways and means. For example U.S. GA is contributing \$150 billion per annum and they are transporting 160 million passengers. But U.S. has a big fleet of 2,28,000 GA aircraft's as against 9 in India. We have 457 airstrips and heliports out of them only 90 are operational so rest can be utilized for the GA purpose. The only thing is that ATC experts from AAI will be able to tell how to cover those areas? Whether the coverage is really required? Surveillance of helicopters in the remote area so all those technical issues are to be examined. Then the solution will come out, I would expect from the ATC that what are the plans for coverage of GA in the remote areas, especially helicopter operations. If the helicopter crashes in the remote areas it becomes difficult to find even its debris. So what are the world practices in these areas, Is India equipped for that because GA directly contribute to the growth of the business? It is directly linked to the development of the economy. As the economy grows, GA operations also increase.

Umesh: You have shared very valuable insights and thought and I am sure there is lot that we have in our plate as GA stakeholders to consider and I suppose that we will take the opportunity of doing that a bit more.

Question 2:

Rohit Kapoor: This is Rohit Kapoor from Business Aircraft Operators Association. I have a question for Ravi. This is the chicken and egg story, I have been hearing this from many seminars about airports which are being developed but not being utilized, where the private developers are putting in money and they find there is no business. I had the opportunity of running the Greater Noida airport. My friend Mr. Mike Myer is here and he runs it State-of-the-art at Greater Noida, again we found that people are reluctant to come and give business to us. How to we sort this out? You said that HNI are going to keep close to themselves even if they bend the rules they want to park it next to them. You have an airport which is one and a half hour drive away from Mumbai. You got to convince him don't park it here; park it there, you will get state-of-the-art hanger. Do it at that time. How do we solve this problem I am not getting a fix on this? How do I convince this man that you are a better-off man? When you drive 3 hours to sit in a business aircraft for a one hour flight? I can't put my fix on it. Do you have any thoughts?

Answer:

Ravi Radhakrishnan: You are absolutely right and that's what we have been trying to figure out from last two years as well. Admittedly it's not easy to convince somebody; that you buy so many crores of aircraft and park it 4 hours away. But it's not only that segment of customers that we are looking at.

For Example, we have Jayant Nadkarni here, from Envision which is a branded charter operator. They have got 2 or 3 aircrafts at Nasik and most of the business comes from Mumbai. It's not possible to park your aircraft at Mumbai beyond a period of time. So firstly it's out of necessity. Moving beyond that we are not yet at the stage where the surface connectivity to places like Baramati or Nasik is good enough for an HNI so he will consider taking 2 or 3 hour drive for parking his aircraft. That will take some time; you keep persisting with the state administration and politicians that look we are doing this for the airfield but you need to improve the surface connectivity. The roads are bad and he has to take four hours drive, there is no way it's going to work. So that's why, it referred to Social Infrastructure connectivity and improving of these places. Another thing is even for charter operator to park an aircraft at a non-metro place, he has to station pilots there, and he has to have maintenance crew and technicians there. They have to move with their families, there has to be schools. So in the present day these are the issues that we are facing. As an airport operator alone you can't handle all these problems by yourself. That's why it has to be done in consultation with state administration and that is the whole challenge.

Rohit Kapoor: I think you will never be able to convince Mr. Ambani to drive 4 hours to drive to sit in his business Jet. This is what I feel personally. I think we need to start looking at Satellite

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Airports especially for GA in the city. It has to happen. Today we are sitting in a position where we have these concession agreements which were signed and which don't allow other airports to come up within 150 kms. We have got Begumpet airport sitting in Hyderabad city which is unutilized, we have got HAL airport sitting in the heart of Bangalore city unutilized, we have got Safdarjung airport sitting in central Delhi unutilized, we also have Hindon airport (IAF) sitting right on the outskirts of Delhi which I don't know what air force uses it for, to my mind it's unutilized. I think we need to start looking slightly out of the box. The model which you are talking about really needs a lot of tweaking to convince people to come in.

Ravi Radhakrishnan: You are absolutely right. But in Mumbai there are not all those alternatives which you have mentioned which Delhi is blessed with. But one thing we were looking at and we spoke to number of operators is in the days ahead if an MRO comes up, if an FBO comes up at a place which is say 3 to 4 hours from Mumbai, you can even look at putting a shuttle in place. A helicopter shuttle or if that is expensive, a small aircraft 2 to 4 seater aircraft connecting Mumbai and that place.... For example: In Mumbai, the airport is already constrained in number of movements it can handle. That's the reason GA has a curfew, a window that they can operate.

Rohit: First of all the problem is known. Is our model right? The world over the problem exists. How are we solving it?

Umesh: Simply there's not a single world class city that I am aware of that has only one airport. So I think Mr. Rohit has highlighted something which is very important and relevant and this is with all due respect from my industry brothers in GMR and GVK. This particular policy is actually going to harm Mumbai and Delhi than anything else. I would treat it as a welcome step if this is the challenge we have because this is when people will start thinking of moving out. I would hate to locate myself in Mumbai just for the plain and simple reason of connectivity. And air connectivity is very important part. I take at least 10 and 20 flights a month which means as many trips to the airports and most of it from the cities. I think this policy is going to harm Mumbai and Delhi at a later stage far more. And this is something which GMR and GVK have to consider in consort with the other stakeholders. Go to any city in the world, each city there has at least 5 airports London, New York, Melbourne.

So that is something we need to take GA out of the whole space and also for the plan and simple reason ;because GA have much slower planes and therefore they block up more air traffic, channel a lot more, runways a lot more than the scheduled traffic and they don't contribute that much to the revenues. One recommendation could be to take out GA from this purview of commercial aviation.

Question 4:

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Location of the airport was a very pertinent point. Statement made by the WCG that GA can flourish only when you can fly **ANYTIME ANYWHERE**. Now I would like to know, what is the typical time, once somebody makes up his mind to fly and how much it takes today, what is being done to reduce that time; to at least what is required to board a train at railway station or even a commercial aircraft, to get MET clearance, to get ATC clearances etc. Unless that is achieved as WCG rightly said that unless you can fly anytime anywhere, then only GA will flourish.

Answer: Andrew

Traditionally when you make up your mind, if you have to go somewhere it should only be a parameter of picking up a phone or getting on a computer, file your flight plan and simply walking to the aircraft and taking off. 15/20 minutes, 30 minutes at the most. But that's in U.S. and I know in India with the amount of restricted airspace and complexity of routing structure there are some issues with that but in good scenario you should be able to walk out in 30 minutes get into your aircraft and fly.

Question 5: Mr. Inderjit Singh

Like for Mumbai we know it's a busy airport we have got 700 movements a day. What about a sea plane in Mumbai? I know Juhu has its own problem, there low lying; the traffic clashes with the main airport because runways are almost parallel by one degree the difference. Mumbai with long coastal line if we can develop GA on sea planes, for that you don't need runway, you don't need land and it's a strategic place famous place where the rich and famous live. We are doing a small project in Maldives where there is one runway but there are 5 seaplane runways and it works and the sea plane movements are almost 11 or 12 fold as compared to the aircraft movement. It's not going to sort out the problem for Delhi until we have a sea here but for Bombay...

Answer:

This Male 20 minutes flights will cost you \$360 per passenger. We have to look at unless the GA operators breaks-even, rest parties will have their own rules of the support. So how can the GA operators breaks-even is the main question? Mr. Ambani or Mr. Tata, they don't care for operating cost but there are other segments like this air-taxi you mentioned, where breaking even is impossible. Government is now taking initiative looking at the bigger player like Kingfisher or spice jet or Jet Airways. It's a major step, off loading taxation on fuel. Basically a thousand crores of cost will get passed on to the government. In the subsequent panel we shall discuss how can GA aircraft break even? If that will have than only more aircraft, more traffic. Of course the issue raised, in restrictive airports where you have to go a couple of hours GA will not be developed. The main question is how we can help GA operators' aircraft break even

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Mr. Singh: Mauritius is a very small country. I am sure you have been there. We are talking of Male where only Richie rich's come. And they can afford and now I am comparing Ambani's to those people. We have one sea plane in Port Blair, in 12th 5 year plan there will be 15 and in next 25 year there will be 100. Presently we have 20 hot air balloons also. 9 are with Non-Schedule Operator Permit (NSOP) and 11 are with Hot Air Balloon club.

Answer to Question 4:

As a charter we require three days in advance conformation of the charter. If you sign up today for a charter flight three days later it is confirmed. Then if you are coming to the airport you have to definitely have to come one hour earlier. Usual security and all have to be followed, we cannot bypass those things but we can ensure a smooth flight for you.

Question 5:

Biggest problem with sea planes today is depreciation. When you put aircraft in the salt water sea it corrodes. What about the GA, it has to move to the mass segment. It has to move down. Why is it today GA is considered as a luxury? I think we have that and many other challenges and the immediate challenge that I have in hand is that I am being nudged by the next panel. Thank you very much for your active participation and I m sure that a lot of those questions like one asked there and the one which remained unanswered can be taken off-line.

Technical Session - 2: Regulatory Framework and Operational Issues

Session chair: Mr. R. P. Sahi, Ex-JDG

My name is R. P. Sahi and I am your session chair for this session- technical session 2 and the subject of the session is regulatory framework and operational issues. We have three presentations here; The Government initiatives in the GA by Mr. Pawan Kumar; and Captain Rohit Kapoor President, Business Aircraft Operators Association. He will talk about the gaps in the infrastructure and also the gaps in regulatory framework and then the business aviation perspectives from international operators' point of view by Mr. Lex Den Herder Vice president of Government and Industry Affairs, Universal Weather and Aviation Incorporated and we can have some time for our interactive session.

Introduction:

May I introduce Mr. Pawan Kumar, Deputy Director in the DGCA and he is an expert in air worthiness matters. He holds an AME license, an engineer's license. He has had three years tenure with ICAO South Asia project, named Calls Cap South Asia out of Colombo. He is here now and

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among other things he works in the Air Worthiness Directorate. He also participates in the activity of the GA and helicopter division in DGCA so, he is fully aware of the government initiatives at present.

Government Initiatives in GA

Excerpts from address by: Mr. Pawan Kumar, Dy. Director, DGCA

The Indian aviation industry as of today these are all figures registered aircrafts 1600+ they are around 1652 or so, Aero planes accounts for 1170 and Helicopters around 300+, 305 to be precise and miscellaneous as I have written 150+ or so. Out of these, around 900 or so are actually operating and why only 900 are operating because there are many grounded aircraft which has not been de-registered as on date but they are still somehow in the registry. Now this is a way behind what Ms. Judy said in morning 228,000 GA Planes in US so that shows where do we stand. It's the same number. As of yesterday we got this figure 1622. Scheduled operators have got 435 aircrafts, Non-scheduled 395 and private so and so... and so if you see the major chunk it basically belongs to GA. Scheduled are only 435 and most of our infrastructure is oriented towards scheduled airlines. 1200 GA aircrafts, 1187 to be precise these are all registered aircrafts though so they are not operating aircraft.

Now, the slides I have just picked up on GA Aircraft which is actually what Mr. D P Singh has told in the morning. 900 or so are operating, they are in operating conditions but actually in fact they are still much lesser are operating because there are certain aircrafts for which Certification of Flight Airworthiness (CoFA) have not been renewed by the owners or operators so but they still are available. This figure is aeroplanes we have in GA around 170, helicopters around 211. So that shows the helicopter industry in GA is probably much more dominating more than if we compare with aeroplanes. As he said in morning there is only one seaplane, which is at Port Blair at the moment and Hot Air Balloon around 9.

Government initiatives in fact I have just picked up, if you happen to see Ministry of Civil Aviation website there is a strategic plan for 2010-2015. It is a 54 page document and it comprehensively has laid down what exactly government needs to do, will be doing during next 5 years. From there one can make out that initiatives in GA proclaim its outlines, objectives, aspirations and implementation criteria and how can we achieve this aspiration and our objectives. This plan lays a considerable stress on development and growth of GA in the country. I have just picked up the same table what is given in strategic plan and it is in this order.

In fact the thematic of strategic plan is outlined in this particular is in this order. Number 1 is connectivity and 2nd is infrastructure then safety and security, efficiency of improvement in our services and Humane Resources (HR) and there are way more so I have only picked up few because

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for GA this is table I have just picked up from same strategic plan and if you see in the morning one speaker has spoken about bottleneck especially at the government level in development of GA but if you take this as a bottle this is almost at the top of the neck Number 1-connectivity helicopter operations and GA. These have been given a top priority so even if the neck is to be broken then this will be going to be the first, which will come out. So GA has been given a prime place in strategic plan by the government. It is again I have picked up from the same plan so connectivity number 1 if you see the very 1st item it says it create heliports in all the four regions of the country. Strengthen connectivity between larger and smaller airports so this is the backdrop development of GA. Now what government initiatives talk about, one is to include 500 more aircrafts in Indian fleet, this is the envisaged plan include 300 more helicopters, establish heliports in all the four regions of the country, one helipad.

These all are aspirations in the strategic plan to periodically review the need for helicopter corridors and update them according to changing needs of the industry. Airspace management to be done in a way to enable optimal growth of helicopters along with fixed wings. Tourism and Medical evaluation is to be promoted through National Disaster Management Authority (NDMA), National Health Insurance (NHI) and by roping in insurance companies; to develop helipads and major government and private hospitals, separate wings for the helicopters to be created in DGCA and AAI which has already been done.

Now this is a road map for development of GA, Seaplanes operations and helicopter services. Mr. D P Singh, he spoke on that in morning this roadmap is in fact not for 5 years, it's for next 25 years and we in this house we have around 7 experts from ICAO. DGCA had approached ICAO – Technical Cooperation Bureau (TCB) and this project is a funded project and this team of 7 experts from ICAO, they are sitting in our office. Their project is already underway and they are going to tell us how to formulate a policy for development of GA, Seaplane services and helicopter services in next 25 years. Assess demand for such aircraft identify infrastructure and human resources of government, development of training facilities legal and regulatory issues etc. Now this project has already taken shape what DGCA has done in recent days in the recent months this is after the battering DGCA has got from Press & Public. We have introduced online examination it is specially should be hearting for pilots. Experts committee was set up by government to examine and suggest the improvements in examining systems and licensing system for the pilots and engineers etc. The intent was for secure credible efficient examination system using electronic technology; online examination has been introduced and already it has commenced for GA and technical papers. There is one or two papers still we are working on, everything else is on-line. The intent was to remove the human element in the examination system. Regarding helicopter routing-helicopter routes; this is also one of the items in the strategic plan. Helicopters routes for Bombay and Delhi airports have already been notified in AIPs. These were done one and a half years back at Bangalore has been worked out.

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If you recall in Bangalore, HAL Airport, Jakkur, Yehlnaka are in same line so the traffic is being worked out. The way we have done in Mumbai and Delhi is something similar will come up. After the crash in North-East something was worked out in Northeast region. Now if one has to travel from Etanagar to Tawang he has to the routing has been redefined, he has to come via Guwahati and Itanagar to Guwahati then to Twang via Bhutan. The Sela pass route has been discontinued, it has been prohibited now. Routes for Bangalore airports are also being worked out. Bangalore has already been notified. He has given more update on that. Now heliports and helipads we already have 17 not exactly approved, but it is not licensed but approved him for operational point of view. We have 70 helipads/ heliports; they are more of helipads than heliports. Even in Delhi we have Rohini, Akshardham and even one at Suraj Kunj but to see the practicality utility of helicopter, Rohini heliport had come up almost two years back and what I know after inauguration not even a single flight has taken-off even though half the helicopters are based from Delhi but why industry doesn't want to use the heliports. So much of infrastructure and so much of money has been dumped into it but nobody is utilizing it. At Common Wealth Game helipad it is still laying unutilized I would say it rusted but it is probably for the operators to do some assessment whether they want to utilize this or not. Roof top helipads; there are three at Mumbai, one at Bangalore and as I said in the strategic plan, there is a plan to encourage people to have helipad at rooftop of every 5-star hotel and every major hospital in the country. DGCA has formed three committees, this is again specific to helicopter. The committees have already started working on it. They are going to review the existing rules and regulations Flight and Duty Time Limitation (FDTL) and Flight Time Limitations (FTL) for flight crew is going to be re-examined and the 3rd group is going to come up with regulations for airborne law enforcement thus on-line of homeland security which is done on-line somewhere in the west. What DGCA had done straight safety program it was finalized as per ICAO time-lines, in November 2000-2010. It was launched in January 2011 and work on implementation plans with assistant from EU India Project under Institutional capacity building for Civil Aviation Sector in India is also under progress. State Safety Program (SSP) has been developed, state policy has been laid down it is being insured that all of the operators and service providers effectively establish and maintain SMS in their operations. In fact SMS's has been made mandatory in the regulations for airline operators for aerodrome operators, maintenance organization, air traffic organization design and manufacturing organization and training institutes. Safety Management System (SMS) it is in phases-IV. Phase-I is already completed; Phase-II is almost completed and Phase-III now the onus is on the operators. SMS for the operators the guidance materials for Non-scheduled Operators was prepared with the help of EU experts. SMS workshops were conducted for DGCA officers as well as GA personnel. Then certain more initiatives what DGCA has taken. The regulations on minimum safety requirements for helicopter landing areas based on regular basis has been laid down this was aftermath of accident in Tawang because nobody was owing the responsibility that who is responsible for maintaining those helipads and heliports. This regulation lays down what should be the minimum requirements one

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needs to adhere to in case they intend to use the heliports and helipads on regular basis. Adherence to Standard Operating Practices (SOP)'s for stabilized approach, SOP's have been laid down. Review of mis-approach, go around, encourage in case of un-stabilized approach, this was another initiative.

Approach and Landing Accident Reduction (ALAR) and monsoon training have been made mandatory for pilots. Pilots are required to undergo course on all weather operations and avoidance of Control Flight into Terrain. Presence of cabin crew in the cockpit in case of one pilot leaving the cockpit has been made mandatory and now in GA there won't be many cabin crew but then we do have even airbus in GA. One airbus in GA. Mandatory 100% pre-flight medical check-up for alcohol consumption by flight crew and cabin crew introduced at all places where flight involves night halt for crew change and more surprise inspection for breath analysis are being carried out of late. The regulations on Foreign Aircrew Temporary Authorization (FATA) issued to ensure background checks and enhanced experience levels medical standards as per Indian Aircraft Rules and proficiency checks. A helicopter division has been set up in DGCA to review regulation pertaining to helicopter operations and to ensure implementation of these regulations and to handle other related issues and I believe it has been done in AAI as well. Recent safety initiatives, procedure of reporting significant degradation of airport facilities at any airport have been issued. Airlines are required to undertake safety assessment before undertaking operations at airfield with degraded facilities. Licensing process has been streamlined as I told you earlier that it has been made on-line at least for the pilots as of now and for Indian airlines (Now Air India) also the process is **"ON"** or may be in a year or so we will have on-line examination for even engineers. Before issues of licenses and process of verification of examinations results, flying done by applicants has been strengthened, this you know why we have done we were forced to do it. On-line examination of pilots has commenced. This is again what I said earlier and as a stop gap arrangement, consultants have been hired on short-term contracts and have been hired to meet an immediate manpower requirement that is again open fact that DGCA has hired, and is hugely under staffed.

Slide 1



Slide 2

Indian Aviation Industry

Registered aircraft : 1600+

- **Aeroplanes : 1170+**
- **Helicopters : 300+**
- **Misc* : 150+**

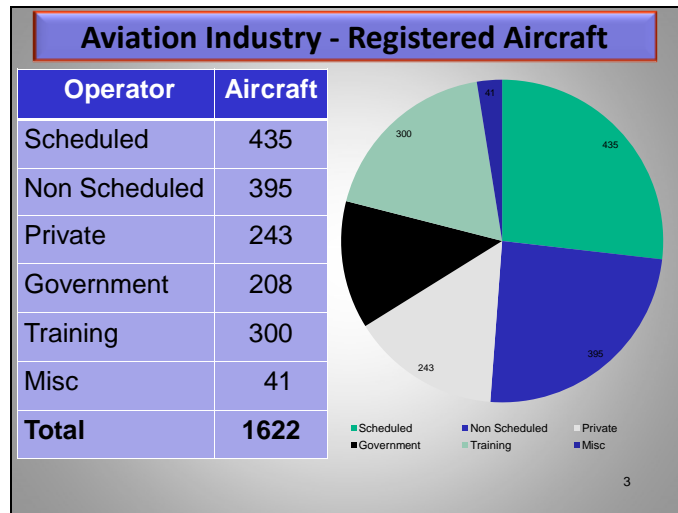
(*gliders, microlight, balloons etc.)

However, **around 900 or so are actually operating** as many aircraft owned by the State Governments, training institutes and under 'Private Category' are old/grounded and do not possess current 'Certificate of Airworthiness.

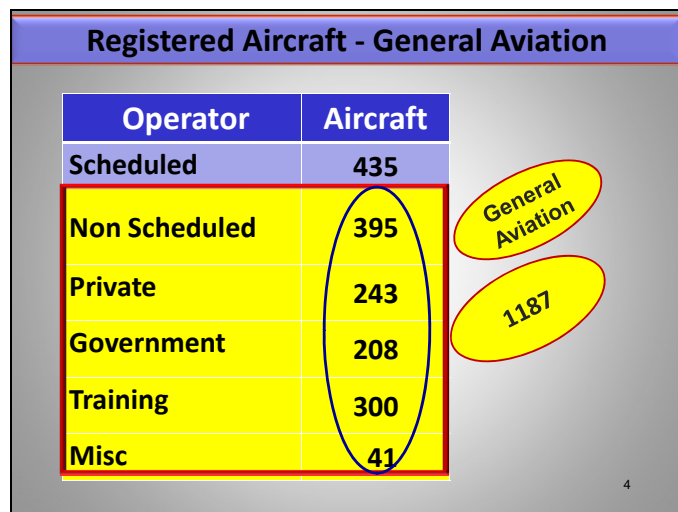
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Slide 3

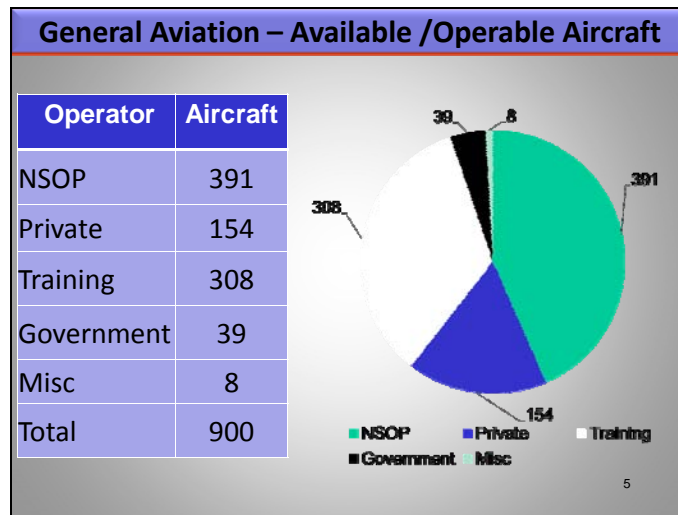


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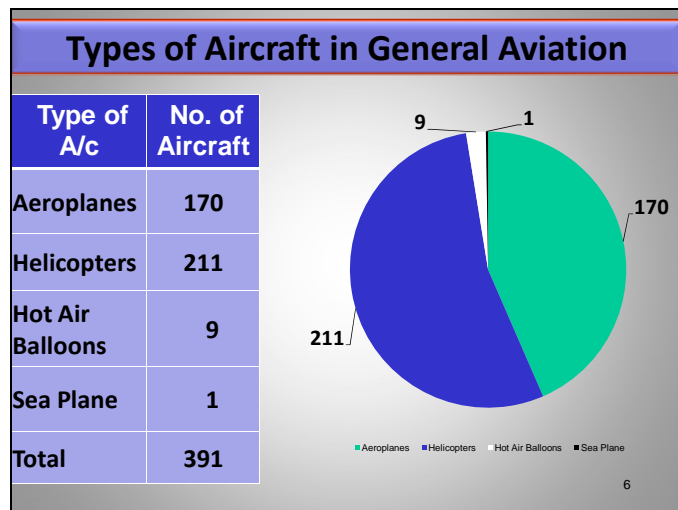


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Slide 5



Slide 6



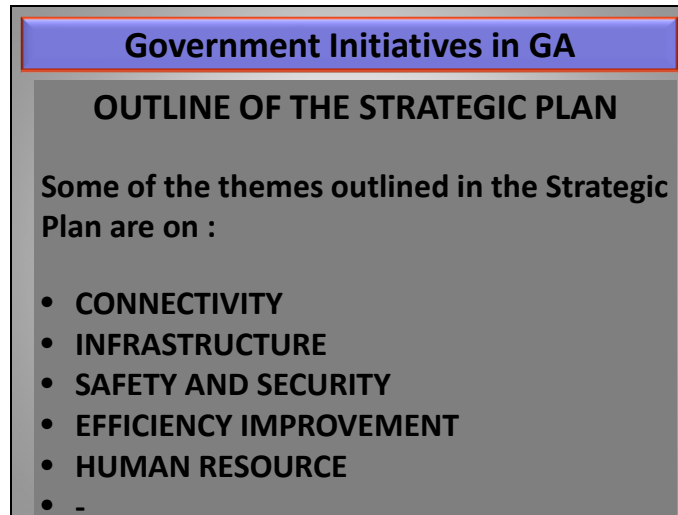
Slide 7



Slide 8

Government Initiatives in GA
<ul style="list-style-type: none">• <u>Strategic Plan</u> for 2010-15 formulated by Ministry of Civil Aviation• Plan outlines the Objectives, Aspirations and Implementation criteria to achieve these Objectives• Plan lays considerable stress on development and growth of General Aviation in the country

Slide 9



Government Initiatives in GA

OUTLINE OF THE STRATEGIC PLAN

Some of the themes outlined in the Strategic Plan are on :

- CONNECTIVITY
- INFRASTRUCTURE
- SAFETY AND SECURITY
- EFFICIENCY IMPROVEMENT
- HUMAN RESOURCE
- -

Slide 10

IMPLEMENTATION PLAN		
S. N.	Theme	Strategic initiatives
1	Connectivity	<ul style="list-style-type: none"> • Create Heliports in 4 regions in the country • Strengthen connectivity between larger and smaller airports
2	Infrastructure creation <ul style="list-style-type: none"> • Airports • ANS and ATM • Cargo • MRO • Helicopter operations 	Introduction of Flexi Operations in Air Navigation Management • Implementation of a GPS based Geo-Physical Air Navigation System (GAGAN) • Develop a Greenfield Airport in Mumbai • City Side development in 10 selected Airports of the country. • Develop a world-class MRO facility in India
3	Safety and security	<ul style="list-style-type: none"> • Establish a new Civil Aviation Authority with comprehensive regulatory powers to replace the present DGCA. • Develop a State Safety Programme (SSP) and Safety Management System (SMS) • Restructuring of the Bureau of Civil Aviation Security. • Establishment of a dedicated Aviation Security Force.
4	Efficiency improvement <ul style="list-style-type: none"> • E-governance • Technology upgradation 	<ul style="list-style-type: none"> • Enhanced transparency by upgradation of EDI system in AAI • Implementation of e-governance project
5	HR capacity development	<ul style="list-style-type: none"> • Upgrade standards of aviation training; focus on improving quality of existing infrastructure
6	Revitalisation of Air India	<ul style="list-style-type: none"> • Financial and operational restructuring of Air

Slide 11

Government Initiatives	
Aspirations	<ul style="list-style-type: none"> • To Include 500 more aircrafts in the Indian Fleet. • Include 300 more helicopters • Establish Heliports in all the four Regions of the country. • One Helipad at every 100 km of National Highways. • Roof Top helipads on all new hospitals with more than 500 wards and 5 Star Hotels. • Introduce Sea Plane operations in the island and coastal areas for promotion of tourism and domestic transport.

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Slide 12

	Government Initiatives
Aspirations	<ul style="list-style-type: none">• To periodically review the need for helicopter corridors and update them according to changing needs of the industry.• Air Space Management to be done in a way to enable optimal growth of helicopters along-with fixed wings.• Tourism and Medical evacuation to be promoted through NDMA and NHAI, Insurance companies• To develop helipads in major government and private hospitals.• Separate wing for helicopters to be Created in the DGCA and AAI.

Slide 13

	Roadmap for Development of General Aviation, Seaplane Operations and Helicopter Services
Implementation	<ul style="list-style-type: none">• Objective<ul style="list-style-type: none">➢ Formulation of policy for the development of General Aviation, seaplane services and helicopter services in the next 25 years➢ Assess demand for such aircraft; Identify infrastructure and human resources requirements➢ Development of training facilities➢ Legal and regulatory issues etc.• ICAO TCB approached• Project approved by the Government and already operational

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Slide 14



Slide 15

Online Examination	
Implementation	<ul style="list-style-type: none">• Expert Committee was constituted by the Government to examine and suggest improvements in the examination system and licensing system for pilots, engineers etc.• For secure, credible and efficient examination system using electronic technology, online examination system has been introduced• Already commenced for General and Technical Papers

Slide 16

Implementation

Dedicated Helicopter Routes

Dedicated corridors for helicopter operations at

- Mumbai and Delhi airports - Already notified
- Bangalore – Being worked out to streamline traffic from/to HAL Airport, Jukur, Yehlanka and Bangalore international Airport
- North East region – Under Notification
Itanagar→Guwahati →Tawang via Bhutan
(Direct Routing from Itanagar to Twang via Sela pass has been prohibited.)
- Routes for Bangalore Airport are being worked out to cater to traffic from HAL Airport, Jukkur, Yehalanka and BIAL.

Slide 17

Implementation

Heliports/HeliPads

17 approved Heli-pads/Heliport
Rohini/Akshardham/Surajkund
Hadapsar Pune*

Rooftop helipads
3 at Mumbai
1 at Bangalore



Slide 18

Review of Helicopter Regulations

Implementation

3 Committees are working on following areas pertaining to Helicopter operations:

- Review of existing rules & regulations
- Re- examining the existing FDTL and FTL of flight Crews
- Formation of regulations for airborne law enforcement (Homeland security)

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Slide 19

State Safety Programme

Implementation

- State Safety Programme (SSP) India was:
 - Finalized as per ICAO timelines- November 2010
 - Launched in January 2011
- Work on Implementation Plan with assistance from EU-India project 'Institutional Capacity Building for the Civil Aviation Sector in India' is under Progress

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International Civil Aviation Organization (ICAO) is a place responsibility on Contracting States to formulate a State Safety Programme (SSP). The Programme is an integrated set of Regulations and activities aimed at improving safety. Directorate General of Civil Aviation (DGCA) has regulatory responsibility for aviation safety. The SSP is based on comprehensive analysis of the State's aviation

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system, safety policies and risk management, safety assurance and promotion. Safety oversight of DGCA is now focused on areas of significant safety concerns or higher safety risks. Thus, SSP provides the means to combine prescriptive and performance-based approaches to safety rulemaking, policy development and oversight by DGCA India. In order to manage the SSP and ensure implementation of requirements of Safety Management Systems (SMS) by stakeholders, a SSP/SMS division has been established in DGCA. A regulatory framework after introduction of SSP in DGCA and SMS amongst stakeholders has been established.

Most of the essential elements of the safety framework are well established. However, a number of items have been identified for improvement which needs further concentrated efforts to work upon in related areas. Various tasks outlined in the program need to be completed by concerned officials to make SSP a wholesome subject under DGCA. It is planned that the document is kept up-to-date on DGCA website. DGCA will work with service providers in cooperative and collaborative manner to help them develop and establish their SMS. Hon'ble Minister would be requested to unveil the SSP Document. The SSP document is an RFD item which was to be completed by 31.12.2010 and has been accomplished. European Commission under the project 'Institutional Capacity Building for the Civil Aviation Sector in India' (ICCA) has assisted in framing the SSP and would assist in the Implementation plan.

Slide 20

The slide features a blue header bar with the text "State Safety Programme...". On the left side, there is a vertical blue bar with the word "Implementation" written vertically in white. The main content area is light gray and contains two bullet points. A small number "20" is located in the bottom right corner of the slide.

State Safety Programme...

Implementation

- **State Safety Programme (SSP) has been developed**
- **The Safety Policy has been laid down. It is being ensured that all operators and service providers effectively establish and maintain the safety management system (SMS) in their operation.**

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Slide 21

Slide 21 features a blue header with the text "Safety Management Systems". On the left, a vertical blue bar contains the word "Implementation" in white. The main content area is grey and contains the text "Regulations now require establishment of 'Safety Management Systems' in" followed by a bulleted list of six items: "Airline operations", "Aerodromes", "Maintenance organisations", "Air traffic organisations", "Design and manufacturing organizations", and "Training Institutes". The number "21" is in the bottom right corner.

Safety Management Systems

Regulations now require establishment of 'Safety Management Systems' in

- Airline operations
- Aerodromes
- Maintenance organisations
- Air traffic organisations
- Design and manufacturing organizations
- Training Institutes

21

Slide 22

Slide 22 features a blue header with the text "Safety Management Systems....". On the left, a vertical blue bar contains the word "Implementation" in white. The main content area is grey and contains the text "Phase-wise implementation for SMS as per CAR – Four phases" followed by "1st Phase completed" and a list of five bullet points: "accountable executive;", "person responsible for implementing the SMS;", "statement of commitment to the implementation of SMS", "gap analysis; and", and "implementation plan based on an internal gap analysis.". The number "22" is in the bottom right corner.

Safety Management Systems....

Phase-wise implementation for SMS as per CAR – Four phases

1st Phase completed

- accountable executive;
- person responsible for implementing the SMS;
- statement of commitment to the implementation of SMS
- gap analysis; and
- implementation plan based on an internal gap analysis.

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Slide 23

Safety Management Systems.....

Implementation

2nd Phase – almost completed

- documented safety management plan;
- documented policies and procedures relating to the required SMS components; and
- process for occurrence reporting

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Slide 24

Safety Management Systems.....

Implementation

SMS for operators

- Guidance material for non-scheduled operators prepared with the help of EU experts
- SMS workshops conducted DGCA Officers and General Aviation personnel.

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Slide 25



Slide 26

Recent Safety Initiatives

- Regulations on minimum safety requirements for helicopter landing areas used on regular basis laid down
- Adherence to Standard Operating procedures (SOPs) on stabilized approach for safe landing.
- Review of missed approach – ‘Go around’ encouraged in case of un-stabilized approach.

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Slide 27

Recent Safety Initiatives

- **Approach and Landing Accident Reduction (ALAR) and Monsoon training have been made mandatory.**
- **Pilots are required to undergo course on All Weather Operations and Avoidance of Controlled Flight into Terrain.**

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Slide 28

Recent Safety Initiatives

- **Presence of Cabin crew in cockpit in case of one pilot leaving the cockpit has been made mandatory.**
- **Mandatory 100% Pre-flight medical check for alcohol consumption by flight crew and cabin crew introduced at all places where the flight involves night halt/crew change.**
- **More surprise inspections for breath analysis are carried out.**

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Slide 29

Recent Safety Initiatives

- Regulation on FATA issued to ensure background checks, enhanced experience level, Medical standards as per Indian Aircraft Rules and proficiency checks.
- A Helicopter Division has been set up in DGCA to review the regulations pertaining to helicopter operations and to ensure implementation of these regulations and to handle other related issues.

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Slide 30

Recent Safety Initiatives

- Procedure of reporting significant degradation of airport facilities at any airport issued.
- Airlines are required to undertake a safety assessment before undertaking operations at airfields with degraded facilities.

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Slide 31

Recent Safety Initiatives

- Licensing process has been streamlined.
- Before issuance of licence, process of verification of the examination results/Flying done by the applicants has been strengthened.
- Online examination of pilots has commenced. Syllabus for pilots has been revised in line with international standards.
- As a stopgap arrangement consultants have been hired on short-term contract have been hired to meet the immediate manpower requirements.

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Although I was aware you overrunning the allotted time but the subject was such that I didn't want to interrupt because this was very informative. Anyway I think we will have Question and Answers at the end. So, thank you very much you can come and take your seat and I now invite Captain Rohit Kapoor, President Business Aircraft Operators Association. He has been a vociferous speaker about, the aspects which he feels very strongly about. From time-to- time he has been raising issues many of which the regulators seems to have taken seriously. It is still a long road ahead and lots of things to be done. May be you have heard all these issues before, but for all of us it will be a refresher to see what are the gaps between what we have now and where we want to be or is it really possible? Some issues he said it is not possible. He cannot convince himself to ask his client to go for a three hours drive and then take a flight. These are some of the issues actually at the moment which we think are beyond our control. But careful deliberations about every matter will bring in some solutions.

Gap in Indian Regulatory Framework

Excerpts from address by : Mr. Rohit Kapoor. President BAOA

So today we are governed by combination of series of laws which to us seems archaic, haven't kept pace with time and along with that some rules and regulations which I simply think that are bad laws and bad policies, for which government needs to take two

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steps back & review them rather than trying to reinforce them with further bad laws and as we go forward we will touch upon some of these.

A quick word about Business Aircraft Operators Association (BAOA)-this is Non Profit Organization which was formed on 31st March 2011 by amalgamating two erstwhile associations which were doing the same work. We have established with the aim of bringing in close cooperation among its members for mutual benefit & we are acting as the collective voice for the business aviation community in India & do assist its members in aviation matters. We are trying to, this is our mission we are trying to help the growth of businesses aviation country in this country in a systematic progressive way. I am coming to the issues which concern us. I am not going to touch on most of these issues because I think the government & most of you are well aware of most of these issues. I am only going to talk about certain issues which I think needs to be highlighted upon and which are close to our hearts. The closest being and when I talk about bad laws is import duty on the import of businesses aircraft, our GA aircraft in country. I think this was the bad law which was formulated in 2007 and if I show you certain statistics you will realize what happen to our growth thereafter. You have seen the graph on the left actually gives the figure which is very different to what we have been hearing since morning, we heard from 2000-5000 businesses aircrafts being added in next 10 years. I think Businesses Aircraft Operators Association should probably have been the most optimistic about it, but I think at the moment; we are most conservative about it. We actually say that we are about; 552 is actually business aircraft; we are talking about 750 odd GA aircrafts and we are talking about a growth of about it going to 1800 odd aircraft in the next 10 years.

Now if you pause for a minute and you say we are going to add upon 1000-1100 aircraft in next 8 years we are talking 2020 which means; we are talking about a 100 aircraft every year. This means that we are talking about almost 3-4 aircrafts every month; which I can assure you it is not really happening at the moment so let's take a pause before we go wild in our numbers or how many aircraft are going to be added. I think there is a certain amount of reality check, which needs to be done. I am not for a moment saying that potential is not there. There is huge amount of potential but we find that we are at the moment boxed in by certain constraints, which are not allowing us to grow, and as we go through presentation we going to talk about it.

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Now graph on the right if you see. General Business Aviation really started took-off in year 2002-03 and good growth at the rate of 11%, 14%, 19%, 26% and 2007 at the rate of 12% little low but in 2007 was the year when Import duty came into existence and 2008 is again same bad deliveries 20% growth.

We see the red arrow in my presentation, that's the time when you found that the law for import duty started really getting enforced where you found number of cases of aircraft being confiscated by customs department. It's all over the press and thereafter after the growth goes down immediately to about 10% we still compiling the figures for 2011 from the data which is coming in its not very heartening to see what we hear is not more that 30-35 aircrafts have been added in 2011, which really means of 5-6 % growth and now with the latest news is going on about Directorate of Revenue Intelligence (DRI) again on a new witch hunt about foreign registered aircraft operating in India. Any person who buys an aircraft has the Department of Revenue ringing his door bell the next morning. It is not harbinger of good news for the industry. At some level, we need to get back and get the perception right. The problem with the perception is, at the moment the import duty as we perceive; is supposed to be imposed on goods which is either of luxury nature or which are for the protection of local industries. Now here we find nothing is happening, except the perception that a business aircraft is really an aircraft for luxury. This is the perception of we need the government to change. We have been talking about it that this is not something which is for luxury, it is a tool for economic growth, it allows you to reach communities, grow jobs, adds to the Gross Domestic Product (GDP). This is data which has been collated delivered from more developed countries which use business aviation though it's yet do not have that kind of maturity to collate data in our country. Yet but there is no reason why can't the same be applied to us as far as business and GA is concerned. So we have got a duty which is almost 18.5% in one way and 2.5%, so immediate concern at moment is the government must take two steps back. This is the bad law it needs to be reconsidered we are having a very myopic vision at this moment. we are collecting this duty of 18% where in we are restricted to growth 7-8% if we do not do this and we go back to the growth of 20-25% that I think we can achieve; We will immediately open up to this sector we will create job, we'll add to economic growth, to GDP, government will collect taxes, you name it. The revenue which government expects to collect by this revenue, by this import duty, we are pretty confident that government will collect "x" number more times up of duty if they open this sector up. However I won't say duty or revenue if they open their sector up. So this is one the

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immediate concerns which the government to take a look at. Our concern at the moment obviously is, that there are various players in this sector, Ministry of Civil aviation, DGCA. We find there is lot of cooperation between civil aviation and DGCA they are hearing us, they listen to us had special session with us. The concern which is coming out we are not getting attention of some of the other players like the Ministry of Finance who see it from a very different point of view and I like to think that probably there is a difference of view between two ministries themselves, as to how to approach this problem. So this is at the government level, we need to I think raise the stakes little higher rather than only at the ministry of civil aviation we need to start looking at it in larger picture. Obviously infrastructure development of GA is something which has again been spoken about here, since morning. I want to say something here. You know infrastructure projects are capital intensive and they takes a long time. In India that takes a longer time than at most of the places I mean GMR built I think Delhi international airport in 3 years after a process of 10 yrs of tendering. Navi Mumbai has been probably in the process of planning for don't know how many years and god knows how many years it will take. I was surprised to see that, in our master plan and master visions of all these big airports that we are building, we have actually not catered for anything to GA. There are no plans, I am sorry to say this there is probably in a 1000 page documents there is a half page dedicated to GA. It is only now that we are waking up that there is something about GA infrastructure also that is required. Today we talk about Fixed Base Operators (FBO's) and heliports but when the master visions for these airports were being made they could not even think about it. This is again a very typical problem here. You make a highway; you make an express way and forget to make foot over bridge, so it's a typical example of the same thing.

GA was not seen as a sector which is going to contribute towards revenue for private airport developers; therefore they never catered for it. Now they are trying to see what they can do about it. We have lost a few years but all is not lost; I think there are still adequate numbers of options which they can exercise in the immediate future you know we have been talking about Delhi International Airport. We have given a suggestion. We have been talking about an FBO which is to be built here, for the last 2-3 years. Number of tenders have come up, and gone back. We find terminal-2 is a terminal which has been shut down and is not being utilized. One of the suggestions is why not open terminal-2 for GA. The old international terminal it's lying there; it has a huge apron in front of it, can be used for parking of the GA aircrafts. That terminal itself can be developed into a FBO. It is something

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which can be done immediately. It will come up in the next 3-6 months, while we figure out what we want to do in longer run similarly.

I spoke about Safdarjung airport. It has got that security blanket on it, the whole world has security issues I don't know why we can't find a way around to use it for heliport if nothing else. We have the Hindan airport which is just on the outskirts of Delhi. It is an Air Force airfield. To the best of the knowledge it is not being used by fighters anymore, it is only used by helicopters flying or for training purposes. Why cannot it have a civil enclave? We have been talking about a new airport in Greater Noida, still stuck in some politics. So still we need to start looking at immediate concerns. Again a bad law the Concession Agreement, I know my friends from GMR and GVK will be very upset with me because there is a loss of revenue to them. But I think in a larger national interest, somebody needs to have a relook at Concession Agreement given there; that you can't have more than one airport in the major city like Delhi and Mumbai. I mean you are loosing out majorly as a country, just to protect the commercial interest of certain private players, who have a legitimate right to make a profit we are not saying they don't but I am sure that there are ways and means to get out of it. We made a bad law, we need to revisit it. So I think GA infrastructure when we talk about 3000-4000 GA aircrafts. I am sorry unless there is GA infrastructure, there are going to be no 3000-4000 aircrafts; forget it. It is not happening.

I see a plan which Mr. Pawan gave that the government wants 500 helicopters to come in. I saw a very nice article in Times of India -Pawan Hans is got it you to the last't' that India needs 249 more helicopters; they have calculated it beautifully. But what has happened there, where are they coming from, who is going to put these 249 helicopters from where. Rohini and the Common wealth Game; I think if there are some operators here from the helicopter industry I think there is a little mismatch in what Pawan Hans says, to what these operators because the operators says they don't even know these heliports are in existence and can be utilized by them, because there is no general circular to them, as to how they can use it, as to what they have to pay they are not even aware I don't know whether any helicopter operators who can second that. I personally have not seen any public circular about Rohini heliport which is been up for about 2-3 years and how people can utilize it. So obviously it needs to take a little bit of the better form of communication.

Other issue of course, is the third issue, I have said is, the ownership of the aircraft to be separated from the management aspect. Again it flows out from this whole issue of import duties. One person wanting to import an aircraft and putting into someone else's NSOP for use; the government doesn't allow it because they feel it is a way of circumventing paying of import duties. We look at it in a different way; it is a matter of how the industry will get consolidated. It has got fragmented into

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small little players: Non Schedule Operator Permits (NSOP) operators, one aircraft one helicopter, trying to meet with the requirements of the safety and cannot meet them legitimately. We want that the government should recognize that there is a viable model for aircraft management which exists which should be allowed. It will allow for consolidation. I should be able to buy an aircraft in my company and give it to somebody else to manage it for me; as an NSOP. An import duty as we understand is to be imposed on the end use of the aircraft and not on how it is being imported. If the end use is on NSOP, then it should attract the import duties of it stands today of NSOP; not of a private operator. But today as it stands, I must import it in a private category, pay an import duty of a private category and then give it to somebody else on lease so that he can manage it for me. Does not stand to logic to us.

Other issues of course, single window clearance for imports, too many agencies involved at the moment; we want the government to simplify it. Additional aircrafts of imports, we still don't know why we need to go back to the acquisition committee for it. I am already an NSOP holder; I think it should be simple process. Fill in an application online get my clearance in 7-10 days. What's the big deal in there? Validity period of No Objection Certificates (NOC) we want this to be extended. Now Area of Responsibility (AOR) this is another huge issue. AOR is foreign registered aircraft landing in India, I am sure Lex will talk a bit about it when his presentation comes in. we see no reason in why it needs to take 30 days for a foreign registered aircraft to land in a defense airports with a civil enclave. He's got nothing to do with the defense part of the airport. People are coming in and going out in defense enclave which is totally different. So why would it take 30 days. I am sure there are certain security requirements in there. But they need to decentralize it give it to the local commanders, who you can probably pick up the phone and call the naval base commander there in or just apply to him on-line and get your clearance.

Multiple leg flight plans is again a major issue with people. I want to fly A to B to C to D. I have to file a flight plan at every leg. I have to get off, as a pilot, on every leg, go and report to every ATC, pay my landing fee and parking fee at that ATC, come back to my aircraft startup again, why can't I get my clearance for A at A B C D. I can't still figure it out, what are the major issues there? ATC payments, still pilots carry wads and wads of cash in their pockets, to pay every ATC. Why can't he have a preloaded card or a credit card which he just swipes and makes his payment? This is not a rocket science it probably takes a month to some IT kind of a thing to be done and into the place.

Ground handling, we want more transparency as to who are the people who have been authorized as ground handling agents at various airports. We found AAI in a return reply to a RTI says, we have not appointed any ground handling agents in any airports and when you go and land in Lucknow. There is somebody standing there saying that I am the ground handler and unless you pay

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me “X” amount of money I will not let your aircraft operate. There is a mismatch; here we want it to be transparent. I should be able to go to AAI website which should be able to tell me who was the ground handling agents, what are their charges. We need more transparency in the system.

Photo Identification Card (PIC) endorsements, I am not going to touch on this. Bureau of Civil Aviation Security (BCAS), again there is a huge mess going on. Security passes for pilots, engineers I am sorry to say this, but yesterday we have dispatched an aircraft with pilots going on with boarding passes. It is happening every day; some of you outside the country must be laughing. Pilot actually fills in the boarding pass I don't know whether it is legal or not, whether I should be talking about it here or not. The pilot fills in boarding pass as a passenger, and sits in the captain's seat and takes-off. That is what's happening. Because it's a problem, to get him a pass. You have an NSOP, you have an aircraft; but pilot's pass is not ready how do you accept me to fly? Sit on the ground for two months?

Another thing, for the last two years I hear the BCAS does not have a lamination machine to make a proper pass. Is it rocket science to get a lamination machine to make a proper pass? Private companies do this every day. So you get a pass which is made of a piece of paper and which is valid for 3 months. You carry it your pocket, you give it to everybody, he looks at it with suspicion, and he looks at you as a suspect. An aircraft, it went Aircraft On Ground (AOG) in an Indian airfield and they flew the engineer overnight from god knows somewhere in the US who took an overnight flight and came and landed in Bombay to service this aircraft of Fortune 500 company and poor guy was stuck outside that airport for 30 days because he couldn't get inside. There was no access for him, as a foreigner he couldn't go inside the airport. I think is being addressed in Bombay now I believe they are giving 3 days or 5 days passes but I think it needs to come out as a policy rather than any, you know, ad-hoc arrangement. So BCAS needs to actually get into the loop of the main stream, problem we find is BCAS is totally out of sync. They are independent, though it's a part of MoCA. It works as an independent agency and it is absolutely not approachable. I am sorry to say you are still doing behind the scenes; to get things done. There is no proper system which is put in place there. I am not going to touch too much on DGCA issues. I know Mr. Lex is going to talk more about the operational issues and the number of days it takes to get a clearance for a foreign registered aircraft to land in India and stuff like that. Of course shortage of examiners, we don't know why the Flight Inspection Directorate (FID) is so short of examiners while the country is over flowing with underemployed pilots? So need to have a look at it. The policy of only is having FID from Air India and Pawan Hans needs a relook. There are a number of good people even outside government agencies, they can be taken on. There is one helicopter inspector for 380 helicopters flying in this country and you cannot do justice to this.

US-India Aviation Cooperation Program

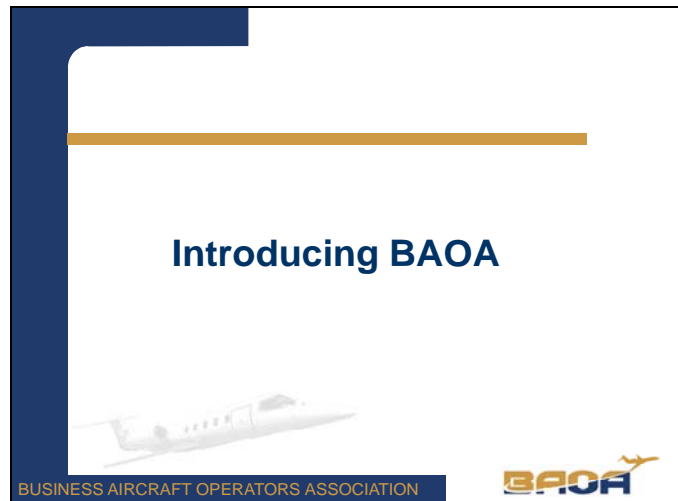
I am not again talking too much on MRO issues there is a MRO session, which is going to come up. Mike there is a MRO session. You are going to talk about that. So I guess that's about it as far as the issues are concerned. Just some interesting statistics most of them were been covered in the morning you know by Ms Judy when she spoke about it, the revenue which it gives you, the kind of leg up business aviation give. We really want that the perception of business aviation must change. As long as people start looking at it as the poorer cousins of the commercial airline industry or as the rich man's toy, I don't think we are going to get any kind of response.

I am happy to know that we are getting fair amount of response now. Mr. Sahi has actually been very instrumental. I must thank him here on the public podium that he has gone out of his way to be very supportive to us. The ICAO team is here we, already had a meeting with them we have presented all our points. We hopeful thing will change. But I think what needs to change is that the short-term issues will change quickly enough but at the larger perception, policy, infrastructure level involving other stake holders like ministry of finance and stuff like that.

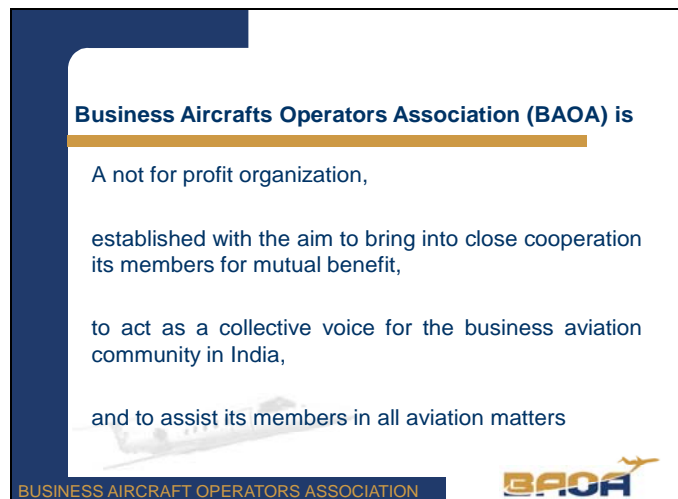
Slide 1



Slide 2



Slide 3



Slide 4



BAOA' s Mission

- Advocate the benefits of business aviation to regulatory agencies and industry groups
- Foster the highest degree of operational efficiency and safety
- Actively promote the overall growth of Business Aviation in India
- Work in order to define the standards of Business Aviation in India

BUSINESS AIRCRAFT OPERATORS ASSOCIATION 

Slide 5



ISSUES CONCERNING GENERAL AND BUSINESS AVIATION

MOCA



1. Import Duty Roll Back on Import of Aircraft.
2. Infrastructure Development for GA
3. Restrictions on Operation of Foreign Registered Aircraft in India
4. Ownership of Aircraft to be Separated from Management Aspect
5. Single Window Clearance for Import
6. Additional Aircraft Import

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Slide 6

ISSUES CONCERNING GENERAL AND BUSINESS AVIATION

7. Validity period of NOC of Aircraft
8. Issue of AOR by Air HQ / Naval Air HQ
9. Multiple-leg Flight Plans
10. Aircraft Parking Slots
11. ATC Payments
12. Ground Handling
13. Flight Dispatchers
14. Requirements for PIC Endorsement





BUSINESS AIRCRAFT OPERATORS ASSOCIATION

Slide 7

ISSUES CONCERNING GENERAL AND BUSINESS AVIATION

BCAS

1. Security clearance of BOD/Directors
2. BCAS pass.




BUSINESS AIRCRAFT OPERATORS ASSOCIATION

Slide 8

ISSUES CONCERNING GENERAL AND BUSINESS AVIATION

DGCA

1. Air Operator Permit
2. FDR requirement on light twin engine helicopters
3. Manuals
4. Permission for the International Flight
5. TCAS for RVSM Airspace
6. Landing Permission Foreign Aircraft
7. Shortage of Examiners



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ISSUES CONCERNING GENERAL AND BUSINESS AVIATION

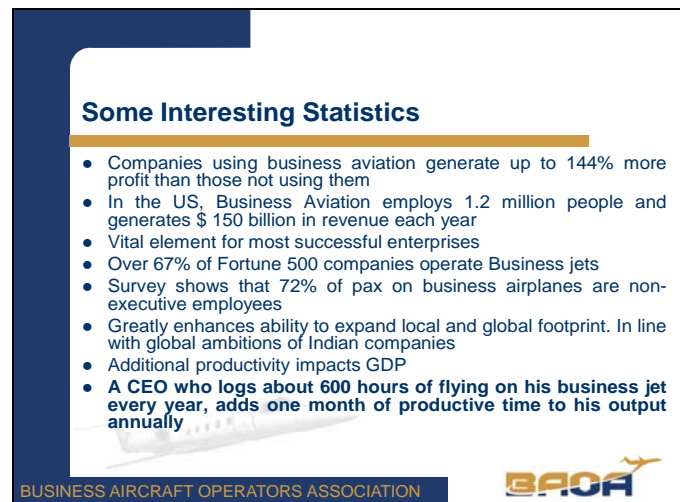
DGCA

8. Use of Satphone
9. MRO Approval
9. AME Endorsement
10. Base Approval in Stages




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Some Interesting Statistics

- Companies using business aviation generate up to 144% more profit than those not using them
- In the US, Business Aviation employs 1.2 million people and generates \$ 150 billion in revenue each year
- Vital element for most successful enterprises
- Over 67% of Fortune 500 companies operate Business jets
- Survey shows that 72% of pax on business airplanes are non-executive employees
- Greatly enhances ability to expand local and global footprint. In line with global ambitions of Indian companies
- Additional productivity impacts GDP
- **A CEO who logs about 600 hours of flying on his business jet every year, adds one month of productive time to his output annually**

BUSINESS AIRCRAFT OPERATORS ASSOCIATION 

Introduction:

let's hear Mr. Lex Den Hurder. He is the Vice President Government and Industry Affairs Universal Weather and Aviation Incorporate and for the last couple of months I am working with him on the flight clearance issues because we see that this is one major bottleneck in development of GA in the country and so we asked his assistance in giving us, the world practices and he has done a lot of hard work and at the moment Government is considering these issues, but I think I will let him speak his bit and then in the Question/Answer session we will further ponder over the procedures.

Business aviation perspective from the international operator viewpoint

Excerpts from address by: Mr. Lex Den Herder, Vice President, Government and Industry Affairs, Universal Weather & Aviation Inc.

I would like to address, a lot of discussion is going here about GA 500 more aircraft, 2000 more aircraft smaller airports etc. There are different segments of GA; there is the pleasure, there is a Medical Evacuation (Med Evac.), there is a sport, air-taxi, and seaplane and the segment, I am going to talk about is really the business aviation. These airplanes typically are 25000 pounds to 90000 pounds. We are talking about Cesena manufactured by friends at Textron, Hawker Beech, we talking about Dassult, Gulf Stream, Bombardier. Those of the airplanes we were talking about business aviation, typically 8000 ft, I guess is pretty good runway in length. That's probably the minimum. Then there is bigger airplanes that these organizations operate BBJ, B737, there is one in Mumbai

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A319, B757, there is even B767s and B747s being operated, so we just need to take in the context when we talk about GA and 500 airplanes. Is it something that has propeller or is it turbojet?

I am pleased to address this esteemed group; like to cover these business aviation issues, the things I am going to cover are, reduce this time requirements for landing and over-fly approvals and at one point I do want to make in all the discussion that we had here today. Large discussion about infrastructure, but some are changes that I am going to bring up are more policy changes and that can be changed fairly easily, if the will and desire to do so is there. Improved processing of formalities; talking about customs immigration processing, more favorable climate for purchase and operation of business aircraft; I am not going to touch on that well he has covered that already. Develop a process allowing easier ramp side access for business aircraft pilots and support personnel can tell you many stories there; he touched on one and also going to touch on as well and develop guidelines for the regulation and support of business aviation. Business aviation is totally different from the commercial airline business fact. We need to make distinctions where appropriate facilities I will not go into that a separate license or approval to handle business aviation. The license such required to handle an airline should not be the same thing that is required to handle a business aircraft that is something totally different. That is what rest of the world does. It is a separate type of operation.

Very quickly little bit about Universal so you understand who we are and then little we know little about business aviation. We were founded 1959 and we are recognized as the industry pioneer and we are the largest provider of trip support services for business aircraft. We average 2000 international trips per month i.e. one airplane doing multiple legs around the world 2000 times; 2000 different aircrafts per month. We have handled two and half a million legs since we were founded and we have been doing this. We have our own FBO's, ground support facilities in 20 countries, 40 locations within those countries. We have been supporting flights for India since 1974. We also pump 150 million gallons of fuels, so we know a little bit about business aviation. I won't go into this, but this is the fundamental of what universal delivers naturally; successful trips. There is pre-planning for the in-flight, the arrival and the post trip.

Growth; fantastic message here is huge growth in business aviation in ages. More than 50 % of business aircraft are sold in the international market place. India and china are the leaders. This is significant change with US previously purchasing the majority of business aircraft. What this means is the tremendous growth and opportunity and more business aircraft designed to come to India to develop commerce. Not only those who are coming now and are based here; but also the ones who are coming to Asia. This is a headline from Black Coaches & Administration (BCA) show news from the National Basketball Association (NBA) convention last November, mentioning financial leasing, signed deal for purchasing 33 business jets, 1.2 billion dollars. 33 new airplanes and they're going to be more sold going to china i.e. growth. Lots of those aeroplanes are going to fly over and come to

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India. And we talked about the growth of business aviation in India, I won't get into it. That point is made. But the good point to make, Mr. Jindal of Jindal Steel supported his beliefs and the importance of business aviation, sponsoring BOAA with a significant financial sponsorship. Addressing the current climate for business aviation he is quoted as saying, "We are too conservative; we need to make it easier." Building on Mr. Jindal's point difficult access issues like clearance processing and airport formalities issues will limit international companies travel to India ultimately trade and investment goes trip free. I have seen it happen.

Corporations, whether they are American ones or European ones or South American ones do not have a seven days notice required to come to India; the trip does not come. May be it is planned in the future, but they do not come. Do they come on airlines, may be; but I assure you that there are deals and opportunities being missed just by the virtue of the fact of time requirement.

Quickly I will like to go into the international structure of Business Aviation. BAOA is a member of International Business Aviation Council (IBAC). IBAC is an international non-government nonprofit organization based out of Montreal in the ICAO building. They represent business operators including On-demand charters at ICAO and in international forums. They have also developed the International Standards for Business Aircraft Operations (IS-BAO) program, which is the international standard for business aircraft operations, which is a code of best practices for flight departments worldwide to achieve high level of safety and professionalism. Also IBAC has a permanent observer status with ICAO as well as the UN specialized agency for aviation matters.

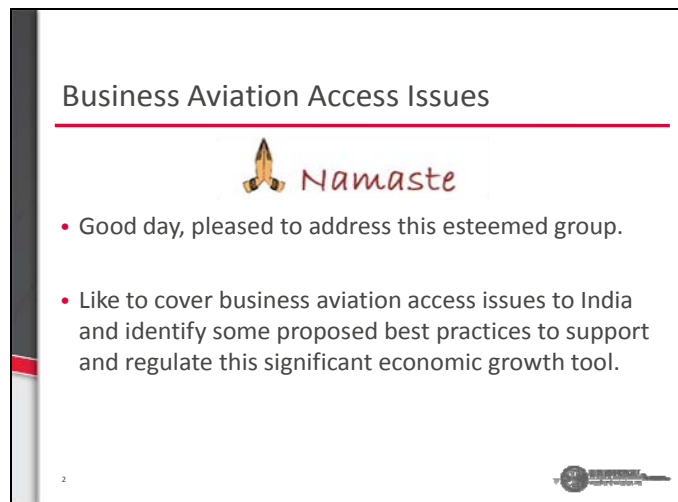
These are the organizations by the way that are members of IBAC. There are twelve; NBAA representing United States, MEBAA representing Middle East, EBAA represents Europe; ASBAA represents Asia, BOAA and several others. You can see that global connections for business aviation are very strong and well supported with a voice at ICAO.

Issues in operating are not unique to India, as well as international business desire in accessing individual business aircraft which is growing significantly and thus improvements are needed to support the operations here. As you know, that BA has recently come under pressure in United States. I would like to play a short video developed by NBAA on the value of business aircraft. The Video is US centric because it is intended to convey a message to US authorities. The lessons are however same for India and growing economies. This is a very good video on Business Aviation.

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Slide 2



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Business Aviation Access Issues


- Reduce time requirement for landing and over-flight approvals
(consider a blanket or multiple operation system)
- Improved Processing of Formalities, (Customs & Immigration)
- A More Favorable Climate for Purchase and Operation of Business Aircraft (taxation and regulation)



Slide 4

Business Aviation Access Issues


- Develop A Process Allowing Easier Ramp Side Access for Business Aircraft Pilots and Support Personnel
- Develop Guidelines for the Regulation and Support of Business Aviation
 - business Aviation is a different industry totally than commercial aviation
 - make distinctions where appropriate, e.g. separate facilities in major metros
 - separate license or approval to handle business aviation




Slide 5

About Universal Weather and Aviation, Inc.

- Founded in 1959 by Tom Evans, Universal is recognized as the industry pioneer of trip support services
- Averaging 2,000 international trips per month
- More than 2.5 million global trip legs facilitated
- Voted #1 in the *Professional Pilot* PRASE survey 18 times
- Universal Aviation ground support in 20 countries. Supporting flights to India since 1974
- 150 million gallons uplifted annually through the UVair® Fuel Program




Universal Founder Tom Evans




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Value: successful trips



Pre-planning and aircraft departure	In-flight	Aircraft arrival	Post trip
<ul style="list-style-type: none">• Trip itinerary consulting• Permits / clearances / overflights• Ground handling / customs and immigration<ul style="list-style-type: none">- Ground transportation- Security- Fuel arrangements- Catering- Credit- Hotels• Weather briefings• Flight planning	<ul style="list-style-type: none">• Weather updates• Manage changes to schedule• Flight following	<ul style="list-style-type: none">• Ensure all arrangements are executed from pre-planning• Fuel aircraft; cleaning and lavatory services• Change management	<ul style="list-style-type: none">• Follow-up and debrief• Online invoices• VAT recovery

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Slide 7

Growth!

- Asia is now the leader in business aircraft purchases – more new investment and business aircraft will come from Asia.
- More than 50% of business aircraft are now sold to the international marketplace.
- China and India are the leaders

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BCA SHOW NEWS AVIATION WEEK

TUESDAY, OCTOBER 11
NBAA 2011

Apps Abound at NBAA
Many applications for mobile devices unveiled here. –Page 10

Cessna Launches Latitude
New jet is a clear challenger for Embraer's Legacy 450. –Page 18

XOjet Is Adding a New Type
As many as 12 Hawker XPRs will augment fleet. –Page 22

Tried & True for New Globals
Bombardier looks to seven veteran suppliers. –Page 24

CMC Improves SmartDeck
"Highway in the Sky" takes into account human factors. –Page 26

Learjet 85 Is Getting Closer
Production commences as 2013 certification targeted. –Page 28

Chinese Orders Top \$1 Billion

China continued to drive the news here at NBAA with the signing yesterday by Minsheng Financial Leasing Co. of orders for 33 aircraft worth well over \$1 billion. On the shopping list were 20 Falcon 7X and 2000G business jets, worth \$800 million at list prices, and 13 Embraer Legacy 600s, worth some \$400 million. Minsheng has bought more business jets than anyone else in China, says company VP Zhang Bo. –Page 22

Lets of Legacy 650s are coming to China! Doing the deal here were Embraer China president Guan Dongquan, Minsheng Financial VP Zhang Bo, Minsheng chairman Kong Linshen, and Embraer Executive Jets president Ernest Edwards.

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Growth of Business Aviation in India!

- OEM's expect significant growth
- BAOA India estimates 3 fold growth by 2020
- Mr. Jindal of Jindal Steel has supported his beliefs in the importance of Indian business aviation sponsoring BAOA with a significant financial sponsorship.

Addressing the current climate for business aviation,
Quoting -
"We are too conservative, we need to make it more easy"

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Growth! Will Lack of Support Limit Growth ?

- Difficult access does and will continue to limit foreign business operations, deals and investment to India!
- Similar restrictions that affect international business aviation to India also limits Indian business aviation from having easier and more timely access to international markets!

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BAOA is a Member of IBAC




- International non-government, non-profit organization based in Montreal in the ICAO building.
- Represents business operators (including on-demand charter operators) at ICAO and in international forums.
- Manages the IS-BAO Program
 - The International Standard for Business Aircraft Operations (IS-BAO), developed by the International Business Aviation Council (IBAC) and its member associations, is a code of best practices designed to help flight departments worldwide achieve high levels of safety and professionalism.




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International Business Aviation Council



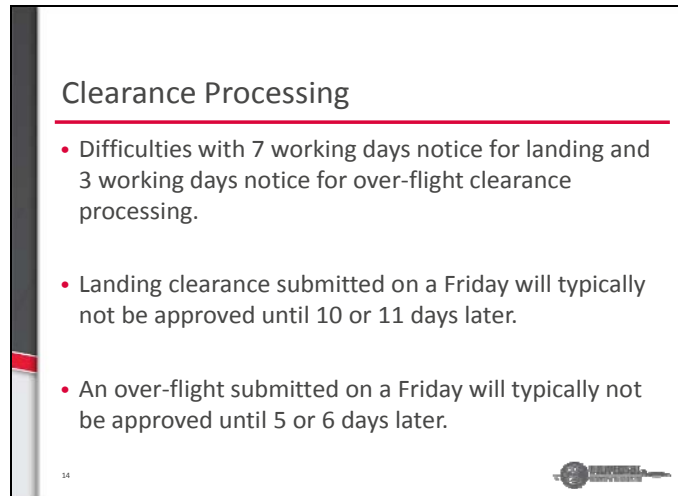
- The International Business Aviation Council (IBAC) is a Council of business aviation associations from around the world. Governance is established through the IBAC Governing Board, with representation from each of the Member Associations.
- IBAC is an international, non-governmental association which represents, promotes and protects the interests of business aviation in international policy and regulatory forums. IBAC was founded on 15 June 1981 at a meeting in London; it was incorporated as the International Business Aviation Council, Ltd. in the District of Columbia as a non-profit corporation on 25 June 1981. Its Bylaws were ratified 14 September 1981 in Anaheim, CA.
- IBAC represents the interests of business aviation worldwide. IBAC is an International Non-Governmental Organization (INGO) with permanent observer status with the International Civil Aviation Organization (ICAO), the UN Specialized Agency for aviation matters. IBAC's Secretariat is based in the ICAO headquarters building in Montreal Canada.



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Slide 15

Clearance Processing

- Severely limits planning and schedule changes in this ever-changing business climate.
- India is in the middle of the crossroads of Asia.
- Industry is very willing to support a process whereby DGAC and authorities receive all the data they require to issue some type of blanket or multiple entry approval.

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Customs and Immigration

- Customs and Immigration processing is too time consuming and ever changing.
- 2-hour plus processing is not unusual.
- Globally the norm is 1 hour or less.
- Industry is looking to save time and difficulty and is happy to support methods which would ensure authorities are able to inspect and do their due diligence in shorter time. One method would be dedicated customs and immigration staff for business aviation at major airports.

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Access to Ramp and Facilities

- Ramp access for flight crew on a non-flight day is hugely difficult.
- Several days to weeks is sometimes required.
- Our own experience as a handling supervisor is also quite cumbersome with days required to get a ramp pass that is valid for only 3 days and generally is only issued in Delhi for all airports in India. We operate all over the world at all major airports where we do not have this difficulty and have long-term passes.

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Business Aviation Facilities



Fueling stop



Hangar rampside



Curbside elevation



Rampside elevation

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Flight Plan Filing

- Pilots in most cases must go to Air Traffic to file flight plans and obtain ADC and FIC clearances. This is not required in virtually any other country.
- Electronic means or use of an authorized representative should be considered.

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Customer Experiences


- Honeywell:
 - "Earlier this year we flew into Mumbai. Our aircraft had a hydraulic problem that had to be repaired.
 - The aircraft could not continue on our business schedule.
 - We wanted to dispatch another aircraft from our Morristown base to continue our Executives trip, however due to the 7 working day requirement for landing clearance we could not obtain a clearance and were not sure how to complete our mission.
 - Finally with the support of our Government Affairs people and the assistance of U.S. Ambassador Roemer, we were able to get a clearance.
 - This delay caused the need to hire a charter for our Executives.
 - We sent one of our senior mechanics from the U.S. to Mumbai to oversee repairs and we were never able to obtain an airport pass for him to access the aircraft.
 - We travel globally all the time and do not experience these types of delays and limitations anywhere else."



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Customer Experiences


- Xerox:
 - "I flew there in September and here are the issues we had:
 - Visas complicated and would be nice to not require them for crew or at least make it easier somehow (invitation letters, process, etc...)
 - India holiday's frequently make trip planning, landing permit, parking permit and visas difficult to obtain
 - Adding or Deleting passengers seem to be an issue and we are always worried by adding or deleting a pax we will lose all previous authorizations
 - Departing the airport – seems to be a very lengthy process, we arrived 3 hours early in Delhi and still took-off 30 minutes late!
 - Arriving at the airport – it seems most pilots try to plan to arrive overhead the airport with excess fuel because you can get 1 hour holding due to traffic saturation...we didn't experience this, but we did try to plan for it!"



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Customer Experiences

- General Electric:
 - "The overall sense I get is bureaucracy clogging things up..."
 - My dispatchers and crews tell me that the flight plan filing process is very cumbersome with several government hoops that do not exist elsewhere.
 - From what I gather in the industry, the leadership of many OEMs say it is actually easier to ship something from outside India to India than within.... It just takes too long to get parts and support to the spot where they are needed!
 - That has actually held up some OEMs from placing a parts depot there."



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Customer Experiences

- Qualcomm
 - "A few months ago we flew to Tel Aviv. Due to a last-minute strike, we needed to depart Tel Aviv immediately.
 - The next destination was Hyderabad, but because of the advance entry permission requirement (and the refusal of a waiver or even an earlier arrival) we had to sit in Larnaca for two days.
 - It would have been preferable to spend those two days in India conducting business and spending money there!

We are of the understanding that there is a mandatory requirement of 7 working days to grant permissions for landing private aircraft in India. We have tried to get waivers, but have never been awarded one. General of Civil Aviation (DGCA) in India has refused all landing permissions with less than 7 days advance notice.

On July 22nd we received a request to send an aircraft from Washington Dulles to Delhi, India on July 25th. We were unable to obtain a permit from India to accomplish the requested itinerary and optimal route due to the short notice (under the required 7 days). We opted to fly to Dubai and have the passengers immediately transfer to a commercial flight to Delhi, returning from Delhi two days later for the return trip to the US.



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Typical Processing Times for Clearances

Country	Landing	Overflight
Dubai	2 working days	No Permit Required
Saudi Arabia	3 working days	3 working days
Bangladesh	3 working days	3 working days
China	3 working days*	3 working days*
UK	Not required	Not required
France	Not required	Not required
Singapore	Not required**	Not required**

* China's AIP defines 7 working days. Typically processing time is 3 days
** for ICAO member States having diplomatic relations with Singapore

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Typical Processing Times for Clearances

- United States
 - Private non-revenue flights: No Permits required
 - Department of Homeland Security: TSA Waiver – depending on a/c weight & point of origin
 - Non-U.S. registered a/c international flight
 - Single Trip(s) Waiver
 - Valid 89 days
 - Multiple operations in 89 days
 - Updates on schedule or persons onboard require updating. Typically no additional processing time for updates.
 - Initial applications 5 working days required, often approved in less time
 - Single Destination International Landings – No TSA Waiver needed
 - Multiple aircraft (fleet) & operations with 89-day validity.
Same process timing as defined above.

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On Behalf of These Esteemed Organizations



- Reduced Time Frame for Approval of Landing and Over-flight Clearances (*consider a blanket or multiple operation system*)
- Improved Processing of Formalities, (*Customs & Immigration*) this is Best Done via Dedicated Terminals or FBOs
- A More Favorable Climate for Purchase and Operation of Business Aircraft (*taxation and regulation*)
- Develop A Process Allowing Easier Ramp Side Access for Business Aircraft Pilots and Support Personnel
- Develop Guidelines for the Regulation and Support of Business Aircraft (*commercial aviation and business aviation are totally different*)

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The Benefits and Best Practices for
Business Aviation



RP Sahi: If I want to take a flight, how much time you would take to clear the flight. Mr. Ricky said three days. If he had asked this question somewhere outside, the answer would be two weeks. Because seven working days notice is required, this means ten days total. It is not that, it just that it is the cooling period; not that any value addition or processing time is needed for that. But I can assure you that based on the input he has given; at a very high level

at the government, the matters are being reconsidered. All this happened after the famous Purlia incident where without proper processing flight was allowed to come and some law and order problem had been created. Nevertheless, there are many issues brought out by speakers in the session which need perhaps discussion but the issues are quite simple and basically the regulator has to do some introspection.

Pawan's presentation was very informative and the public perception was not that the government and DGCA are taking lots of initiative and it does takes a lot of gestation period for any measure to fructify and finally reach the industry.

.Question and Answers

If at all, any questions for the presenters? I see one hand, two hands. Two questions and may be one later if there is an afterthought and after that no more questions, then we go for lunch

Sangeeta: I had a question for Mr. Kapoor. I wanted to understand fractional ownership model. Is it a failure?

Rohit Kapoor: Thank you, Sangeeta. Fractional ownership as a modal never really took-off in India. So I will not say that it is a failed model. Is Jayant here? Jayant is more of an expert in this model. I will probably ask him to also comment on it. Some of our rules and regulation which talk about owning a fraction of aircraft and how depreciation benefits flow out of that is not really in place.

Secondly, like it was said in the morning, I think the biggest issue which as an industry we are facing; we are unable to find a viable business model to run a business here. I mean, we have not somehow got into a model where we are able to get people or the big players to come and invest into ventures in General Aviation. We have had shared ownership but we have not had fractional ownership. Jayant, Will you like to add something?

Jayant: I do not know if fractional ownership is going to be the solution to the growth of the industry. We have enough problems which have been highlighted here. It will take away most of our time. Personally I do not think initially that fractional ownership is the way forward. May be after sometime, once we have major issues sorted out, it can be examined.

R.P.Sahi: From the regulator's perspective, there are no issues with fractional ownership and there are models working.

Question: Not Audible

R.P.Sahi: This question is for infrastructure but the explanation is welcome.

Let the recommendation emanate from this gathering. Let there be a second airport at Delhi which should be dedicated to GA. So I would request the organizers to have that kind of conclusion drawn, if everyone agrees, for the promotion of General Aviation. If there are any more questions, you can take up them during lunch time.

LUNCH BREAK

Special Session with ICAO Expert on General Aviation:

R.P Sahi: Inspector, he is also here and his expertise is in helicopter front and he is looking at helicopter related issues. What the industry needs and what can be done to get there.

On the extreme right is Dr Ronald. Ronald is the legal expert. He is from the headquarters of ICAO in Montreal and I think there are legal experts present here. You may ask him questions you would like to ask. So the floor is yours. The intention is just to share the Canadian experience with you. If you have anything, any question; we would welcome.

In fact Wendy Boyce has been here only last couple of days only. But the intention is that to serve the island clusters and the vast water bodies which we have in our coastal areas. Where it is not readily possible or feasible to build airports or normal land aerodromes, this facility can be used. Of-course in North-East also, I am told that there are lots of areas where lakes are there, In Orissa there are lakes, in Rajasthan there are lakes. This could be used as the means of transportation and also with the hotel industry link; it could be used as tourism activity also. But at the moment within India, we have 2500 km of island clusters and 5000 km of Indian coastline. So there is a lot of scope here. Wendy would you like to say anything?

Wendy: It's quite early in the mission so I don't have too much more to add to that, but I'll looking over all of India for possibility and seeing what impedes their developments within India.

R. P Sahi: Part of the activity would be to look into the regulatory framework; what we need for the sea plane operations in the country.

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Mr. Inderjeet Singh: You did mention about sea plane, in context of using it hopefully in Mumbai, Mumbai being an area where it takes almost 2 to 3 hours by road to go from the airport to the other end of the city, where a lot of people who can afford to fly. That was my question; we are talking this facility for those who can afford to fly. Because it all starts from there, like it was 20 years back for regular commercial flights. Today everybody flies by air, because they compare it with railways and it almost matches up. The resistance from another side came that we do not ...what happens to the sea planes because; they'll be exposed to the sea. Now if we have aircrafts with special skin and all that they fly at 40000 feet-50000 feet in heat and cold in everything. I am sure that our sea-planes also are geared up to take up that salty weather or whatever. So what's your experience on that? Could you tell that and educate us? Is it something very serious to go for sea planes? I don't think so.

Wendy: My own personal experience with that, I own my own sea-plane, back in Columbia. On the coast there have been flying for over 50 years in and out of salt water and they are still going. It depends ... the safety of the aircraft is always the maintenance. If you have an ongoing maintenance program for corrosion for aircraft, there would be no problem. So if you want to do sea-plane operation you need to do the safe maintenance to go with it; that is pretty much the whole part of it.

R.P. Sahi: Like any other aircraft.

Wendy: That is correct. Even aircraft that do not fly oversea, if they are on land besides the sea. Sea water, Salt gets in the air. It is the same thing, even If they are sitting there and not doing anything.

R.P. Sahi: Thank you.

Air Marshal Gujral: Sylvester you (Question missing)

Sylvester: Not that I am aware of. The only types of restrictions that you will see is, when you get into a commercial air service situation and for carrying passengers during IFR operation over water flights, but that is pretty much standard around the world. Everybody is looking for higher dependability aircraft with turbine engines etc to do that kind of work.

R.P. Sahi: You can ask more specifically.

Air Marshal Gujral: There is a restriction for NSOP operations wherein, you can carry only 4 passengers in spite of your aircraft being of cleared to carry 8 passengers; 7+1. So there is a regulation on CAR is existing on that.

R.P. Sahi: In India they say that the single piston engine aircraft can carry total 5 including crew, single turbine engine can carry more of-course, 9 or something, but single piston engine will not carry more than 5 including crew, is that true that same case in Canada?

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Sylvester: No, it's not the same in Canada and not the same in any other authority that I have dealt with. This is the only place, I know that restricts.

Somesh: My question is do other countries say Canada or any other countries do they have special policy on **GENERAL AVIATION** per se?

Ronald: There are 190 countries or more in this world and your question is very broad. You asked me if other countries have different policies. As you know some countries for security reasons some countries will not want to develop the GA while other countries like Canada which is very big and USA because we are here today, invited by US India Aviation Cooperation Program. For big countries it is must. For e.g. like Canada it was developed not so long ago, it was developed with the evolution or the development of aviation. So General Aviation has been important. My colleague said this week that India was developed long time go in the sense that India's has been here for hundreds or thousands of years, so development of the country did not follow the development of civil aviation or General Aviation. If we are here today, it's because the Govt. of India wants to have a road map to see how to promote the growth as the Director General pointed out this morning in a safe and planned manner. I think it is difficult to make comparison with other countries.

My work is to identify the legal and regulatory issues and to provide recommendations like we all have to in our different fields. So I was talking with Mr. Sharma this morning, he suggested that the legal consultants involved in the industry, we should meet. Because the reason why we are here and we make a report is for the government to be aware of the issues, what are these issues? It's the time for the industry we have different experts, different fields, in my case it is the legal part of it. So if the legal consultants, the lawyers are considered that there are legal issues that the government should be aware of, I'm here as you disposal I want to add that I don't have a business visa but a diplomatic visa, I am not here to make any business and second thing is that ICAO has a different department for audits, we are not with them. We are with the Technical Cooperation Bureau (TCB), so we are here to cooperate with you.

R.P Sahi: Tom would like to say something about it.

Tom: Sorry, just to add a little more information to that; the situation here in India with General Aviation is quite unique. I'm not familiar with the anywhere else in the world that differs so much from the definitions of the ICAO Annexes. Here in India you include your non-scheduled operator permit carriers in GA. Normally that is not done, just about any other regulatory structure you will look at, I haven't looked at EASA lately, but I know part of the UK rules, Canadian Rules, American Rules,...your small carriers would be not considered part of General Aviation, so that makes sure your regulatory environment in that area quite more complex and that something would be examining in the of course the study. And it's very important for us to get input from as many of you as possible,

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so any of your comments on policies that would be required to change will be needed, on regulatory changes, please forward them to us, let us know. We'll gladly accept all of those and take them into consideration. It is important that we get as much as information as possible.

Unknown: this is regarding seaplane again.

Wendy: The road blocks for sea plane activities and their probe and we would be looking at infrastructure also. The second question is on safety. Safety depends upon Pilot, the maintenance and the operation itself. In my heart, I would just hope that anybody operating the sea plane would get the proper training, the maintenance and manual, and policies and procedures that go with that operation.

R. P Sahi: Seaplanes generally should be considered safe because it can land on water, it doesn't need an elaborate runway infrastructure, and so if a water body is available at least in case of an emergency a landing can be made. We had searched the sites last year in February. A year from now, we had a seminar on sea-plane operations, there were many presentations and perhaps some of you attended that seminar, some recommendations came out. In the process of study, we saw some accidents on the websites, for e.g. even in You Tube, if you search for that, many of the sea planes accidents are visible there. But it's a rare thing, if you ask a comparison with fixed wing, it is less evident. The incident of the accident is very much less comparatively because of the capability of being able to land on the sea and of-course the aircraft does need the special maintenance, because of the salt water corrosion; erosion takes place and pilot training of-course. In India also there has been an accident in a seaplane, that happened about 15 years ago, but that was of pilot error, because the pilot landed on water without retracting the under carriage.

Prof. Ajit Nigam: In Canada, do you have a specific product liability law as it is there in US?

Dr. Ronald: Of-course we have. For the liability law, the difference in Canada is that there are 10 provinces and each province has its own contract law if I may. But yes, it does exist, and we do have the forum shopping in the case of crash if we. The answer is yes, we do.

Prof. Ajit Nigam: NO, this was like when you do comparison with US GARA(General Aviation Revitalization Act, 1993), Do you have anything specific like that....

Dr Ronald: To aviation, no. ... to civil aviation, no ..

Robin: Business aviation has not been identified as separate category as per as the policy is concerned. It is somehow bracketed with GA and GA actually has a exclusive definition, which basically excludes any aircraft that are not working as a aerial work operator or as commercial air operator. Now what I have been thinking about is why GA is so dependent on infrastructure. Wasn't the intent of GA to bridge the gap where the infrastructure doesn't exist? Like in Australia or US the

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GA has boomed in airports with unpaved airways and all that. So the role of GA is to bridge the gap in areas where infrastructure is lacking.

Secondly, nobody has actually talked; the topic is “General Aviation: Growth, Opportunities and Challenges,” nobody has thrown light on the asymmetric competition that we are seeing. I guess the competitor to GA as of today is not Commercial aircraft or the Low Cost Carriers (LCCs) ; I think the biggest competitors are companies like Cisco and Siemens. Because the Indian corporate has embraced technology, the need for physical transportation from point A to B has actually been done away with. So why isn't that brought up like.

Sylvester: For the first part, is the question, GA actually consists of lot of different kinds of operations and part of it, is accessing those remote areas unapproved, specific type of aircraft usually quite a small one, then it goes all the way to large business jets, airliner size. The way it is dealt with from regulatory type basis is essentially there are two different types of standards, when you are looking at ICAO Annexes. So there is a lot of different kinds of operations. Now the second question. Those market place type questions, there is huge advancement in the communication technology, you are absolutely right, that this thing would make a big difference to the level of air travel. But essentially we see the air-travel demand is increasing even more.

Robin: Actually the first part was, weather actually there is a need to categorize the business aviation as a separate group distinct from, and you know having a kind of importance. It is a catalyst in taking growth in remote areas, India is geographically very vast country, and the population is also booming including HNIs, and the need to actually cater to that kind of special requirement is not something that normal commercial aviation will be able to full-fill. Don't you think that this kind of policy changes are required, where as business aviation is required to identified as a separate sector and given some special stature, something like tax exception and that kind of stuff.

Sylvester: Tax is completely outside the scope of the study.

Robin: Ya I'm sorry ... I mean, isn't it required that business aviation be given that kind of prominence, given the role, by the government ...

Sylvester: But the government decides the policy to promote growth, whatever reasons government you know, adopt policies, that's up to the government, whatever their goals try to achieve. I look at it from operations point of view, safely operating the aircraft; there is no need to make a further distinction.

R.P Sahi: The bottom line was that there is no need to make the further distinction. I would like to tell Robin, that in India, we follow the ICAO's definitions and policies. Now there are requirements contained in Annex- 6 part 2 which is on GA, and there is no regulation on business aviation as such.

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GA is defined as that activity which is not for hire and reward; which means that is a non-commercial activity. So any private activity which is flown by pilot's license, who can do private flying, and which is not generating revenue of any kind for a commercial purpose, you are using for your own purpose, or your company, for your own pleasure, without any monetary transactions of any kind, that is the definition of GA and that is the definition we follow here. So in our studies we have encompassed the issues of non-schedule operators also, because the issues such as legal issues, or the operational pilots training, engineers training or the infrastructure requirements, they are common for GA and business aviation and that is the only reason we have on surface we have clubbed the scope of our studies. Otherwise business aviation is business aviation and commercial is commercial.

Prof Ajit Nigam: I would like to draw your attention to Title 14 of CFR US regulation wherein you have a Part 21 there; and when you look at European regulations which is 216/ 2008 wherein you find have, again a part 21. Now there is nothing else. In US regulation there are Part 1 to 700, whereas in the central EU regulation there is just part 21. Any particular reason for such an activity

The FAA, USA started to do their regulations part numbers and the same part numbers are being followed by the European and there is CAR-145 in India now for the same. People kept the same number and it is easy in the aviation dialect.

Session 3: Financial and Legal Issues

Session Chair – Mr. Atul Sharma, Legal Link

We have a panel comprising of Somesh Arora who is a partner in Legal Alley, we have Todd Hattaway, Regional Sales Director (India) at Hawker Beechcraft, Nisha Saxena who is VP (legal) in GE Capital. But the fact remains that aviation is one business in which I think law and regulations have played very significant role and in fact I must confess it's a vast ocean and in the previous session I was at a loss to understand a few things and it is technical, and the gamut of laws that are going to affect the business are phenomenal including the basic laws like taxation, the VAT. Another very interesting area, in one of the IACC aviation conference I was discussing this with the Chairman of the Airports Authority of India and he had suggested that we have in this country not done any concerted work, on understanding the regime of liabilities in matters relating to air traffic management. So this is something which we have no idea at all and internationally some work has been done. Of course, I like a true lawyer I told them that I'll put a team together & try to get sometime basic work done but then you get busy and then there is some work which has been done in my firm but still we are not even more than 20%. So large number of issues which we need to deal with when we are talking of aviation in general & General Aviation in particular would obviously have certain specific issues.

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Investment Issues in Aviation Sector

Excerpts from address by: Mr. Somesh Arora, Partner, Legal Alley

I will welcome on behalf of Legal Alley everyone in the conference. The topic which we are going to touch today is “Investment in General Aviation Industry”. The first slide is Regulatory frame-work of civil aviation in India. If you see India has an independent ministry that is Ministry of Civil Aviation, DGCA, AAI, BCAS, AERA. So from registration to revenue everything is covered. The structure is formulated in such a way that is very comprehensive & substantiated. Still there are so many issues on investment in this country. What I am going to touch is can we term this investor as ‘**Investars**’ as I have touched, as now days we have been hearing these marketing skills. Apparently, if I go through the first slide, it is important and was touched by Robin & me also. DGCA CAR section 8 series ‘O’ part 3 Issue 1, a lawyer has to check all the sections, then only there is a satisfaction. Aerial Work Operation, Commercial Air Transport Operations, General Aviation Operations and Corporate Aviation Operation that’s how the CAR has defined civil aviation in this country. If I put Business Aviation, I can’t put it under Aerial Work Operations nor under Corporate Aviation Operation so only two definitions; either it’s the commercial air transport operation which says aircraft operation involving the transport of passenger, cargo or mail for remuneration or hire and; if I put GA operation it says aircraft operation other than commercial air transport operation or an aerial work operation. Here again they are silent on remuneration or hire. These kinds of definitions definitely confuse investors; forget investors, even we lawyers also.

The next slide that touches Foreign Direct Investment (FDI) caps in Air transport operations. Intentionally, we have removed the word general from here because we are still confused. Scheduled operators, if you see the foreign equities up to 49% through automatic route and Non-Resident Indian (NRI) investment is up to 100%. The point which I want to highlight is that, equity from foreign airlines is not allowed in domestic air transport services.

Non-scheduled operators are no different, FDI up to 49% again on automatic route and if goes 74% then it is through government route, investments from NRI is up to 100%; again that embargo for an airline not allowed equity stake in any air transport undertaking. So this ‘not’ word is bothering us like anything.

Taxation issues, sales tax, arbitrary, rise in airport usage fees, charges it has been touched by high court, couple of times with no relief apparently. Oil companies passing tax burden on ATF on airlines, dis-appropriate service, tax struggling airlines no special treatment in fiscal policy. We have been speaking about aviation industry as a robust growth, but we don’t have anything apparently on fiscal policy, no special treatment. I will touch Aircraft Turbine Fuel (ATF) for a minute though we have beautiful news coming up for last two days. If you see the blue circle in my presentation, high crude prices that is 20% import parity principal at 16 to 49% marketing margin. Above that 8% excise duties and then 25% that is, average like, sales tax. So we can just have a look and understand that

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what the price is when this becomes ATF apparently. If we see Hyderabad it is about 16% sales tax & it goes to Chennai it is 29% .So to beat up this issue there is a proposal of direct import but I have my own doubt that how it could be really handled by business aviation per se with the type of infrastructure & transport which is required for the import. This little study excited me and then I went to see a comparison with China, Brazil & just to find out that where we stand and if you can see the lines in 1990 all the three countries started almost similar. But if you see the green line regarding China it has touched all the marks with India & Brazil. In fact India, if you see the blue one, the first chart, the second chart, the first chart says about freight, the second one is about transport passengers carried per country and the third one says about registered carrier departures worldwide & the fourth one is on basic infrastructure. So the charts, I need not to explain the figures the drawings are enough to give a clear view that where India stands and please mind Brazil is having only 15% of our population & 2.5 times area more than India. So that's we are trying to touch, as lawyers. What is the policy? Why India is laying so at the bottom, if I compare India, with similarly placed countries like China & Brazil. Let's take China for a minute; it is basically a country, a unique country, where government ownership is on aviation industry. If I put it, the three states owned airlines called Air China, China Southern Airline & China Eastern Airline. The Chinese Government permits foreign investment in all areas of the civil aviation be it Civil Airport, public air transport enterprises, GA enterprises or projects related to air transport. The only area, which is forbidden, is Air-Traffic control system and put it with India there is big not in between. Interestingly in China, this kind of situations has helped at least the consumers at large because the prices are fixed at government level. The middle kingdom apparently is becoming a hub for production of just not aircraft components but also venturing into aircraft manufacture. Let us go to Brazil for a minute, a totally vice-versa situation, which is private sector dominated. Embraer, one of the leading manufacturers of both civil and military aeroplanes in Brazil is the fourth largest aviation company in the world. As per Department Civil Aviation, Brazil has 3rd largest business aviation fleet after U.S and Mexico. Interestingly all products pertaining to aviation such as engine and equipments, board systems, structural parts, aeroplanes, helicopters as well as traffic control systems are available in Brazil. Embraer has also entered into number of joint ventures and collaboration with International Companies.

Let us have India for a minute; India has both; private and public sector participation. The policy is more on the protection side and regulatory framework too; is more on protection side. There is extreme lack of funding in R&D, industry & expertise. So, where we are? Apparently it was touched. What I look forward, because of these restrictions we are scared of innovations, what we are looking forward is bailouts. Rather you should work with the government; that is the only way I am able to find out. Let's work with the government to tackle longer term projects like building more runways, running airports more efficiently, developing robust air traffic management system, that addresses relevant technical issues. Indian market is great if we see, if we can develop on aircraft

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maintenance and overhaul because we have low labor cost in our favor and we have world class engineering services.

This is comparison of growth in terms of domestic aviation; the bigger ball is India which shows 18.40% where as comparing to China which is almost half i.e. 9.70%, Brazil 7.50% and worldwide is 3.80% and that is why it is so talked about the subject in India as of now. Though we lawyers are not much into policy, but apparently we have certain suggestions. We look forward you have seen sales tax 16-29% would you look forward is, if we can have in this country a uniformed and rationalize taxation regime.

Can we look forward for special economic status for aviation sector at par with SEZ's? I hope nobody is going to agree from government side as of now but Sir, the kind of investment which is required in this country on aviation this can be a good proposal like and yes, there is a touch by government few days back that they are looking forward calling upon foreign airlines to invest in this country through the percentages are from 24-26 to 49. It's still being debated. What we look forward is if we can ask for encouragement to FDI, especially by foreign airline to bring in much needed capital. What they will bring is sector expertise, which apparently Indian management could not really look forward to. Sir what I am seeing from last week time or may be 10 days time is that after we have a new civil aviation minister there is something talked about.

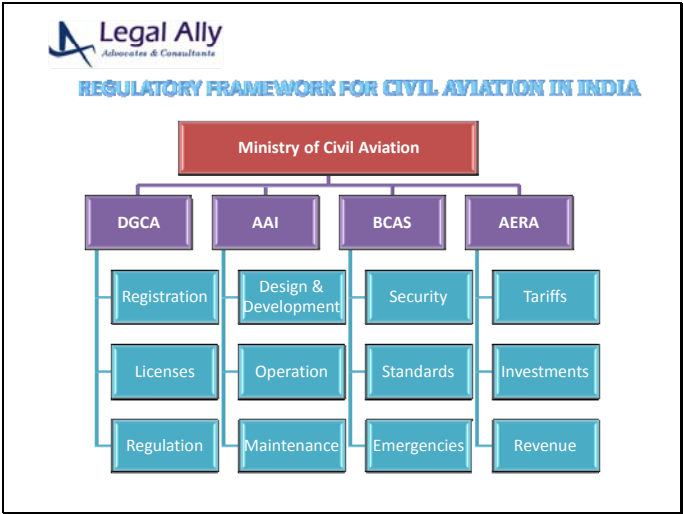
Direct Import of Aircraft Turbine Fuel (ATF) recommended by Government of India, It still is a proposal, we are looking forward that it will be permitted, allowed. Up-gradation, expansion of airport, it's really happening at large all over India. But still if we compare with China & Brazil, which we have seen in last slide, it is minimal and then yes, foreign airlines proposed FDI because we want the expertise also. In the end, I put it myself is where we are?

The major premise is that Indian Aviation Policy as of today is supportive of conditions of aviation sector. But the minor premise is that aviation policy will have to evolve in order to keep pace with the dynamic environment being faced by aviation sector. If I put a story to my own self and try to understand it, the relationship of aviation Industry and policy framework is of a cage with a cub. Gradually the cage was initially to protect the cub; gradually the cub has become a tiger. Now the size of cage, is in fact stopping the tiger, rather it is pushing the tiger to death, which was never the intention of the cage life.

Slide 1



Slide 2

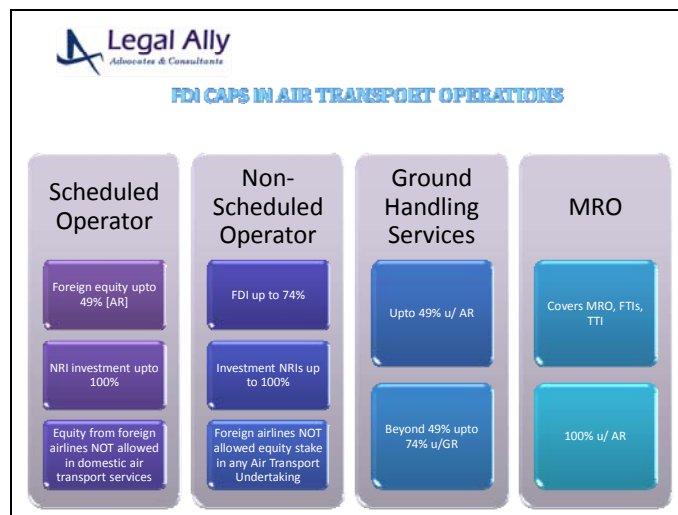


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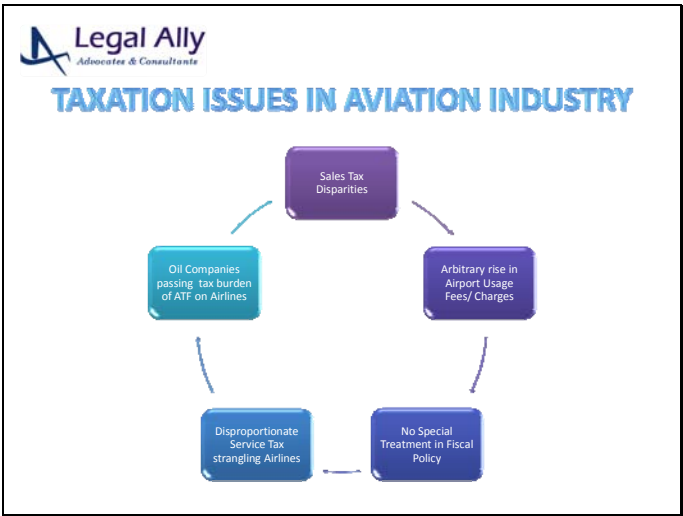
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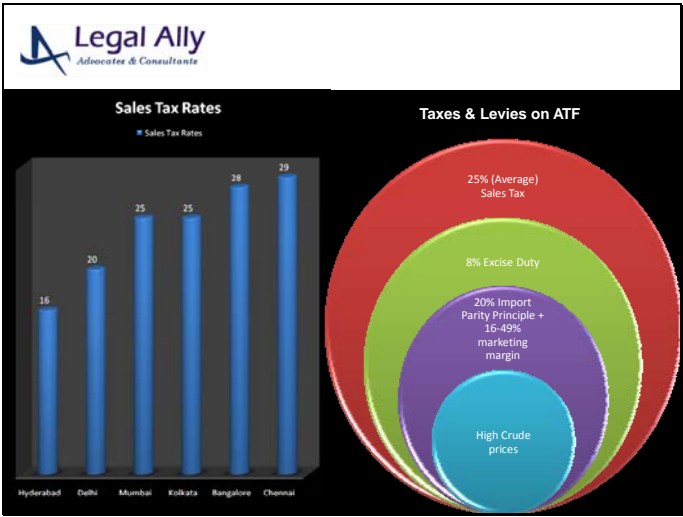
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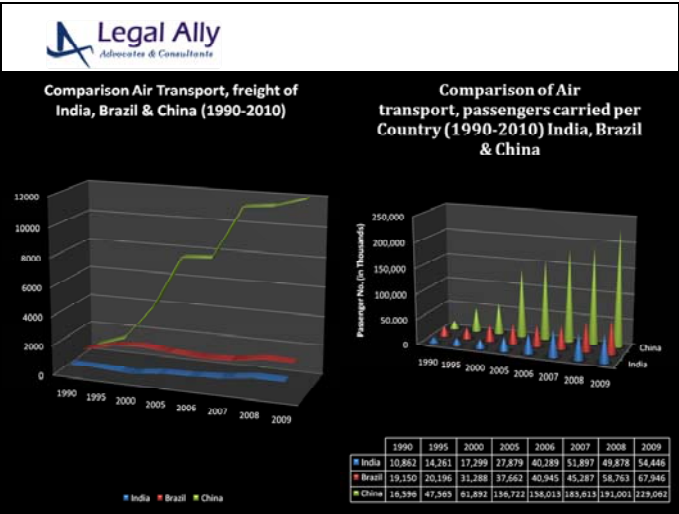
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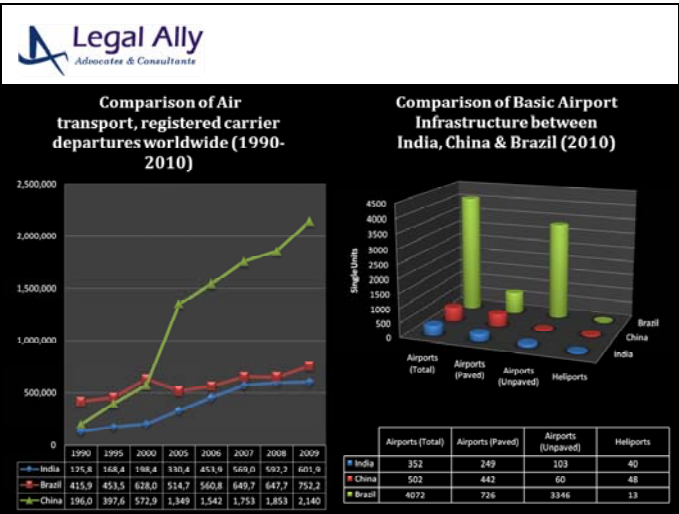
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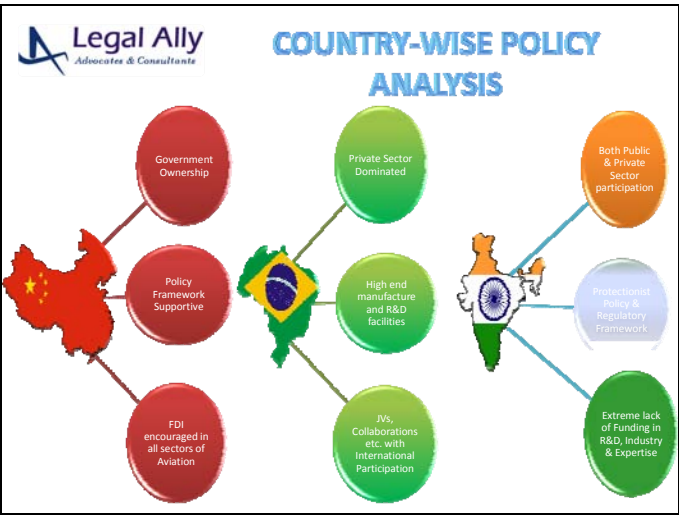
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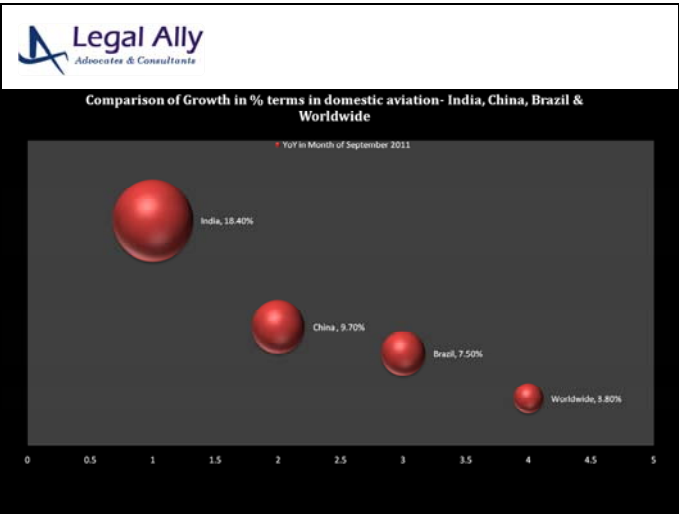
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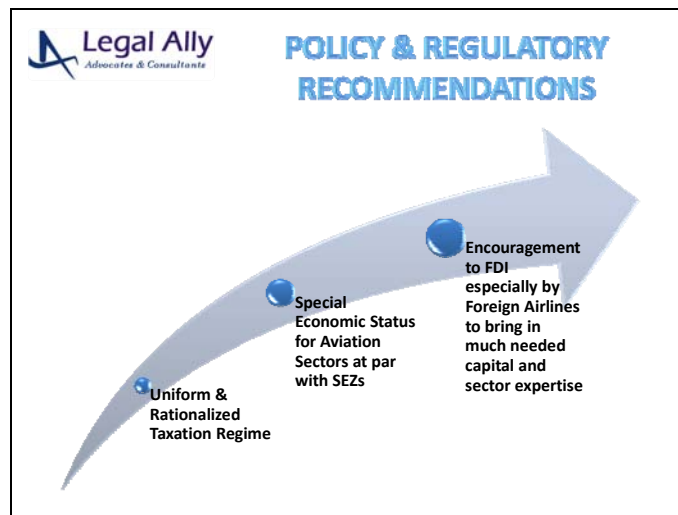
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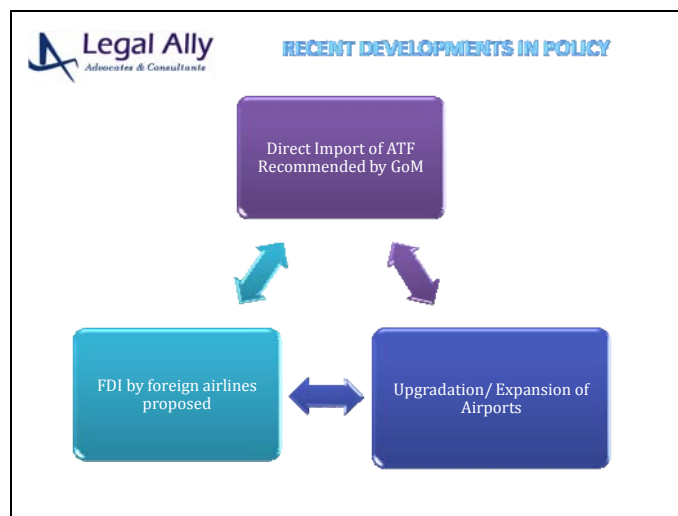
Slide 10



Slide 11



Slide 12



Slide 13



Litigation Office	Corporate Legal Division
S-456 [LGF], Greater Kailash – II New Delhi- 110048 011-46160557	Unit No.-112-112 A, Centrum Plaza Golf Course Road, Sector- 53, Gurgaon Haryana- 122002 0124-4222022

THANKS FOR YOUR ATTENTION.

Atul Sharma: Considering India's background and the fact that aviation business is in fact picked up only on last 15 to 20 years. I think that is a really difficult question to which many of us don't have an answer. Economic regulations has really helped this country telecom, power where the return on investment has been the common thread running through all economic regulations. So the question is whether you want to create the business first or you want to create regulatory regime first? In my personal view you today need to develop the business first and then have a requisite framework of regulations to cater to that business. Well it looks very well to compare India with China and Brazil but if you look at the number of aircrafts that you had historically and I was talking to this gentleman that there are about at a few hundred disuse airstrips in this country because we never had that capacity. As we move along, I think I'll be able to create regime of regulation which would assist businesses because unfortunately we don't have enough businesses.

Next we have Todd who is Additional Sales Director in India Hawker Beechcraft Cooperation.

Introduction:

I am Todd Hattaway, country manager for Hawker Beechcraft. Came over, actually worked for the MRO world that is my background. Basically 30 years of MRO activities working with one of the companies here in India and then transferred over here to Hawker Beechcraft last year. I want thank the organizers who put me on the panel with the lawyers.

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Excerpts from address by: Mr. Todd Hattway, Regional Sales Director, India Hawker Beechcraft Cooperation

The Beech product line is historic product line. We still sell them new. 25 million hours later and people are still buying an aircraft that has been put together with basically a mallet that is craftsmen. We also built new variety of aircraft which is your basically spun. The frames are light weighted, leading edge, 787 technologies, that type of stuff.

We are growing percentage wise on the GA side, but it is really focused on commercial side, and it is in a mess financially. The company we are actually tied in with here in India is one of the few companies making money, Indigo in commercial aviation. We do have some headlines, some are little negative and some are positive. For those who are from Chennai, I think Hawker was actually featured in one of the articles, just recently down there with an aircraft that we had sent back from one of our facilities, sitting on the side of a cargo outfit with no wings. But anyway I think, what you want to see though as you start to see big plans. Friend of mine visited last US-India Business Council (USIBC) meeting, we had a great presentation from Mr. Pawan, and they talk about this plan. Well that's not going to help me personally. These are the type of things you want to see, because now it's going to start linking something together, you know you can't do a presentation from an OEM's perspective without saying you were building an aircraft, a multi-million dollar aircraft in hundred thousand dollars. Number One, You are going to pay more for your aircraft when you are buying from India. Number two, if I am buying same aircraft from US, he is probably going to get the nod. And the reason is that we can't .Building an aircraft at very expensive venture, and you can't wait for 6 months to get rest of your money. I know there are ways around for anything but if you want to talk about legal, since you got me on a panel of lawyers, it's a hundred thousand dollars and then you figure out, after you get your approvals you can go up to certain amount, you have seen the process. Speaking of the process, yes there is really a process by the way; there are plenty of processes. Speaking about me and I am sure Rohit Kapoor, who has just come in; they do not think that there is a process, because it doesn't make any sense to them. But I tell you what; I had General Managers across this country working for me in Air works. They all know the process. They know how to go through and how to get aircraft imported. I caution you to imbibe this comment, What I say is don't come in and try to change it completely, because that doesn't work; what I say is come and try to understand it and then see what we can help along. That is kind of my plea. When I first got here, I fought it and I will tell you, I didn't get very far.

The purpose of this slide was that there is a process for everything. When you want to delete an aircraft, there is a process. If you do not follow that, you can get around that, you can get that aircraft data here, but when you want to buy another aircraft, you can run into problems. There is a good legal team here and there are lots of good people who can help explain this to you. We want to be like

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everyone else and want to get into these committees and help shape it, but I would not discard it. It would be a mistake. The projections of Helicopter growth look good and that's fantastic and a lot of that is the Pawan Hans budget, you know the plan. We put it in there; there is almost 4% growth for helicopters, I think, projected outside of that. Mike, you probably can speak lot better on this.

The turboprop and the business jet side, Honeywell numbers basically say that there is 16% growth in the jets, but you will notice that it is on a pretty low base. You know, we are at business jets and private NSOP world; all these numbers outside which we have seen today, there only are about 150 operating today, in the jet category. When you get into turboprops, there are probably five at every airfield and covered up with dust; but there are plenty of operating turboprops and we feel i.e. the market which is going to grow. We sell turboprops. Obviously, we are going to be optimistic too.

The financing aircraft is not easy anywhere in the world. I mean don't think that just because you are in India, it is against you. It is not easy anywhere. But the thing about India is it gets a little sticky when you talk about leases, you got to really know what you are doing, and you got to have somebody. We could spend nearly three days talking about financing aircrafts and how to do it. I will tell you this, once someone wants to buy aircraft, whether it's me, Rohit or whoever is selling an aircraft or helicopter and I guarantee we got people who can walk you through it and please give us a call. But I want to make sure that you understand that we are not too nosey. We got to know this information. We got to qualify you.

When you going to buy an aircraft from us, we need to know

Who you are?

What you are? And

What you are made up of?

It's nothing personal. I don't really want to see your financials, you know, but I got to and you know what, if you going to buy anything, that's called a special mission type aircraft, where you have medical, or let's just say forward looking radar and whatever you think like that, we need to know what your intent is with that aircraft.

These are not prying questions; we just need to know who we are selling to. The reason I am bringing that up to this audience is because I know that a lot of you broker aircraft and you don't like to tell me who that end user is, you are not going to get an aircraft from me. I'll talk to you and play with you and try to get that info out from you and then eventually I will just throw my hands in air and say we can't move any further, we got to know this type of stuff.

US-India Aviation Cooperation Program

I don't think GE is going to talk about it, so I want to bring it up. In US, if you buy any US product you can get support through EXIM-Bank financing. A lot of companies in India use this, for things other than buying aircraft. I'm really shocked, several people bought aircraft in last few years but have they have converted and gone back... to EXIM loan; which is a lot of upfront money but in the long run, over a 12 year period it really saves a lot.

We have these conferences, I would say, six in a year, throughout the various organizations that I have attended. Lots of the same questions are brought up and we don't know whether they are getting addressed and the airport charges are the new ones since November. I can't even show aircraft without paying a surcharge on top of a handling charge. Just in case, I sell the aircraft, someone wants their piece of the pie. I mean everyone got these issues.

These are great avenues to bring them up. Someone got to start cataloguing them so at least we can figure out, when we brought them and whether or not they were addressed. How long it took to address? We should chart that somewhere.

Custom duties, our little bit on that. Someone brought it up earlier, which I was glad to hear, put the parts in the country; very difficult, very hard, works against you. We would love nothing better than putting \$10 million worth of part in Delhi and Mumbai. I wouldn't even blink an eye to put those parts. But the problem is that I can't. I can't actually get parts in this country without having someone that I am selling them to; and if I want, I can set up an organization and bring them in and get charged 30% and then try to sell them at a loss for 30%. I'm not in the business to lose money.

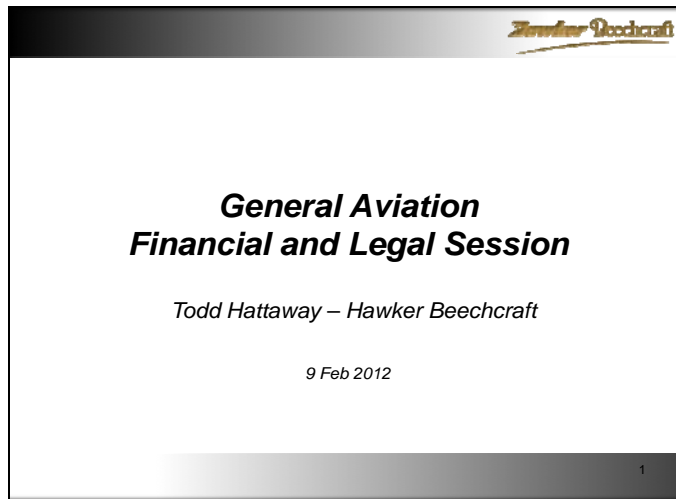
I am just telling you that is creating an unsafe environment. You guys think there are problems with aircrafts. There are items that are getting written off or not written off. We had a thing in the US called the paper napkin theory. I don't know if you have heard about it or not. Southwest airlines got caught for these. Their pilots would write all their write-ups on a napkin and then hand out it to the next pilot. That was just to make sure at night they would log everything in the logbooks properly... and never ground.....wings stacking in Mumbai, by the way. I don't know if you guys have seen that, every time I go there my heart just goes crazy. And then we got regulations which are usually the basis for aircraft.

I operated a fleet of 225 business jets. That is not Net jets i.e. Flight Options, which is where I worked. Almost every company there was tied in with us under fractional environment by the way. Their growth during the years when everybody was declining was in the 30% range. They were growing. The reason is why they were growing because they were interested in those same companies; like a year later when everyone quits flying and didn't have money and thus start coming down. So there is a lot to be said about no plane, no gain. There is a lot to be said about how you grow your GDP.

US-India Aviation Cooperation Program

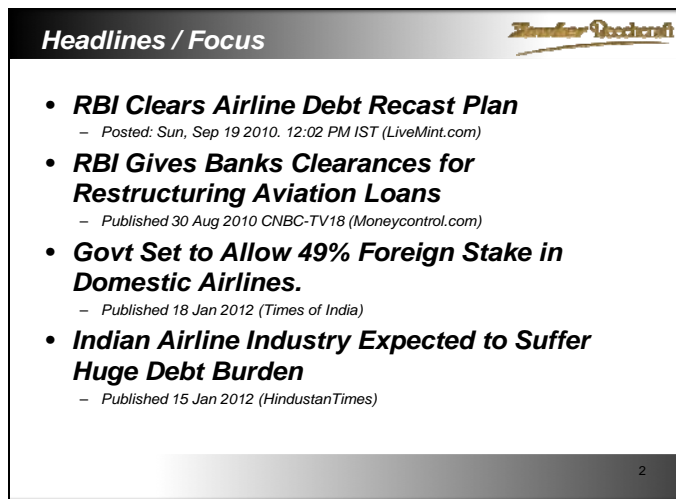
Anybody who has lived here in India, I have been here only three years, I have taken 8 hours+ cab ride in this country more than rest of my life; in places like Hubli, Hosepet, Hosur. So I am sitting and thinking, if I was worth a hundred to two hundred fifty million net worth why am I in the cab? The reason the people are not buying and the reason they are not growing, because we are not keeping up with them, from infrastructure from regulatory point of view so we are making it harder for them to grow their business and for us this means we'll not be able to expand our business without actually having them.

Slide 1



Slide 1 is a presentation slide with a black header and footer. The header contains the logo "Zander Woodcraft" in gold. The main content area is white and features the title "General Aviation Financial and Legal Session" in bold black text. Below the title, the speaker's name "Todd Hattaway – Hawker Beechcraft" is listed. The date "9 Feb 2012" is centered at the bottom of the content area. A small number "1" is visible in the bottom right corner of the slide.

Slide 2



Slide 2 is a presentation slide with a black header and footer. The header contains the logo "Zander Woodcraft" in gold. The main content area is white and features the title "Headlines / Focus" in bold black text. Below the title, there is a list of four bullet points, each followed by a source attribution. The bullet points are: "RBI Clears Airline Debt Recast Plan" (Posted: Sun, Sep 19 2010. 12:02 PM IST (LiveMint.com)), "RBI Gives Banks Clearances for Restructuring Aviation Loans" (Published 30 Aug 2010 CNBC-TV18 (Moneycontrol.com)), "Govt Set to Allow 49% Foreign Stake in Domestic Airlines." (Published 18 Jan 2012 (Times of India)), and "Indian Airline Industry Expected to Suffer Huge Debt Burden" (Published 15 Jan 2012 (HindustanTimes)). A small number "2" is visible in the bottom right corner of the slide.

Slide 3

Headlines / Focus - cont.



- **India Corporate Jets Face Tax Evasion Probe**
 - 10 January 2012 (AINALERTS)
- **No. of private jets, chartered flights soars**
 - The soaring number of chartered planes and private jets are now jostling with commercial flights for the attention of aviation experts and airport operators
 - Posted: 24 May 2011 (Times of India)
- **Rs 10,030 crore plan to link India with choppers**
 - Posted Jan 22, 2012 (Times of India)
- **India's Business Aviation Sector to be worth USD12 Billion by 2020**
 - Posted February 2011 (Airline Leader via data from CAPA)

3

Slide 4

Custom Builds on "What" Deposit?





4

Slide 5

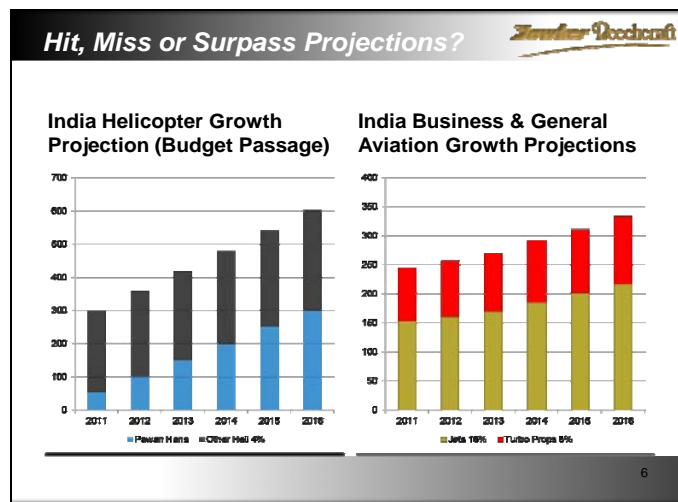
Really – this is a process.. *Aviation Week*

- **Air Transport Directorate**
 - Issuance of NSOP or Private Operators Permit
 - Approval of Import
 - Security Clearances (BOD)
 - Flight Clearances ---- etc.....
- **Remitting Funds for Acquisition**
- **The “4” Stages of Importing**
- **Renewal of an NSOP permit**
- **Inducting an aircraft by an existing operator...**
- **Endorsement of aircraft**
- **Deletion of an aircraft**



5

Slide 6



Slide 7

Typical Financial Products




Depending on the specific details of your purchase, aircraft type and intended use, you may want to consider several different financial products. Every product will result in different costs and structures and it is important to understand and consider all alternatives.

Loan	Operating Lease	Capital Lease
<ul style="list-style-type: none"> Options Term Amortization Fixed vs. Variable Mortgage style vs Level principal payments Cheapest Ideal for customer who wants to own aircraft when terms expire Typical leverage 70-80% for the best credits Typical Amortization 10-15 yrs 	<ul style="list-style-type: none"> Kept off customer's books Elimination of residual value risk Return aircraft to lessor at expiration of lease (Lessor owns the aircraft) Expense lease payments as operating expenses May provide lower upfront cash than a loan Most expensive option Customer does not own aircraft when terms expires Europe/other counties: limits VAT exposure & import tax 	<ul style="list-style-type: none"> AKA Financial Lease or Hire Purchase in Europe Similar to a loan: aircraft buyer has residual value risk Title is held by the lessor Depreciation is taken by aircraft buyer Obligation to purchase upon expiration of lease May provide lower upfront cash than a loan Outside of North America – helps save VAT/Import tax Less expensive than Op Lease more than Loan (not including taxes)

7

Slide 8

Preliminary Information Needed



All lending institutions and banks will require similar information.

- Nationality
- Tax status/residency
- Estimated net worth (if individual)
- If SPC to act as financed party, country of
- Source of debt service and operational cost

- Financing product you desire (loan, lease, sale-lease-back)
- Amount of the aircraft cost to be financed
- Currency you prefer
- Amount of advance
- Term period desired

Beneficial Owner

Financing Best for You

Repayment Capacity

Aircraft

- For corporations: financial statements, preferably audited, preferably 3 years
- For individuals: proof of sufficient cash flow
- Guarantees/collaterals
- Location of assets

- Country of registry
- Principal location/base & country
- Preferred operator information
- Geographical area of operations
- Expected use (personal vs. corporate / NSOP or Private)

8

Slide 9

Export Credit Agency (ECA) Financing

The Export - Import Bank of the United States offers financing support to non-US buyers of the entire line of Hawker Beechcraft aircraft

What Ex-Im Can Offer



- ✓ Ex-Im Bank provides guaranteed and sometimes direct loans between five and ten years (based on their determination of your credit worthiness)
- ✓ For all Hawker Beechcraft aircraft, Ex-Im Bank may finance up to no more than 85 percent of the U.S. content
Although the majority of our manufacturing is done in the US, parts of our aircraft are manufactured in the United Kingdom and Canada as well, which Ex-Im will not finance (see Page 11). If desired, it is possible to syndicate financing with other Export Credit Agencies (ECA's) to finance the non-U.S. content of your new Hawker Beechcraft aircraft, although it is important to note this will delay and complicate the process
- ✓ Ex-Im Bank financing is not currently available to individuals, only to corporations
- ✓ Ex-Im works with your local banks to administer financing in almost all cases, unless the loan is direct

Proof of Credit Worthiness is Critical to Approval

Ex-Im Bank's typical asset-based financing structure typically used in commercial aircraft is used infrequently in Ex-Im's support of "small" general aviation aircraft, the category under which Hawker Beechcraft products fall. Thus, the decision on financing transactions is based upon the credit worthiness of the purchaser or guarantor and determines not only whether the transaction will be approved, but also the costs of financing. In some circumstances, Ex-Im Bank may require a first priority mortgage on the aircraft to secure the financing.

Ex-Im will assess an exposure fee based on each transaction. This exposure fee will reflect Ex-Im Bank's assessment of the creditworthiness of the borrower and/or guarantor and the risks presented by the transaction, beginning at 3 percent. If you are located in a country that has signed, ratified and implemented the Cape Town Convention, the exposure fee will be reduced by one-third

If you are unable to show sufficient credit worthiness to Ex-Im, you will be denied financing. It is your responsibility to present sufficient transparency and proof of your ability to repay Ex-Im's loan




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Slide 10

Do the questions get addressed?

- **Airport "surcharges" on top of normal operating costs?**
- **Could customs duties be creating an unsafe environment?**
- **Fixed Based Operations – is wing stacking safe or is this the result of a parking policy gone crazy?**
- **Do we ask ourselves if these are regulations to improve or is this more about - "Tit for Tat"?**



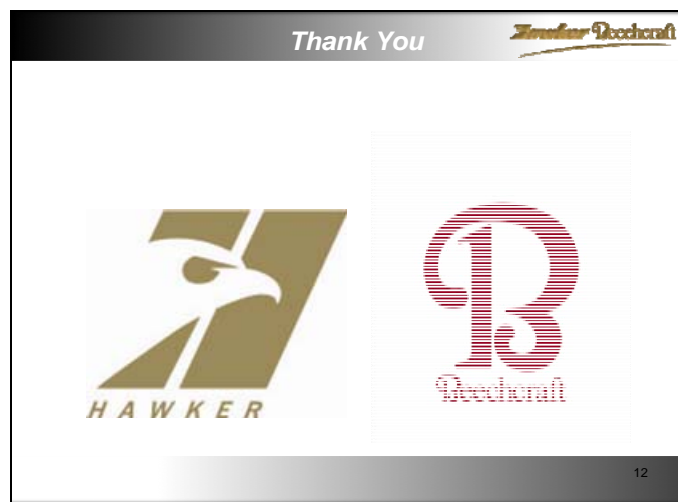
10

US-India Aviation Cooperation Program

Slide 11



Slide 12



US-India Aviation Cooperation Program

Mr. Sharma: I was involved in acquisition, sale and lease back of 30 or 40 aircraft for an airline and this was spread over for obviously 3 years. Every time I use to issue the opinion for a delivery, there used to be disclosure schedule, disclosing various litigations and relations to the company and right until the last aircraft. Every time I would get a question that you compare this with first delivery and the status of the case is same. Finally and not less important we have Ms Nisha Saxena from GE Capitals and she will be going to talk from perspective of Financing, in I assume General Aviation.

Financer's Perspective

Excerpts from address by: Ms. Nisha, Legal Counsel, GE Capital

I am legal counsel at GE Capital in India. GE capital does GA financing in our counterparts side at GE commercial aviation finance; GE Caps, do the commercial side of the transaction. Just a follow up on Todd, I am going to be a little bit more specific on things he raised, and if he needs to know without prying; we really need to know everything, including how much your mother earns and how much she is going to be using the plane, you know. So as a Financer, we almost stand in as the regulator, because obviously this is an area which is heavily regulated and in India there are multiple agencies that are regulated. Because we are giving someone 10 to 20 million dollars, so we want to make sure our assets is protected. So we really try to understand what you are going to do with the aircrafts and make sure that, it follows all the entire multiple regulators rules.

So I just take you through some general funding structure that we use, I think my sales team will probably be disappointed because these are not that complicated. Because this is all I could up with power point. So these are three type of structures, we normally do Standard Loan, Finance Lease, Hire Purchase and Operating Lease. Once we sanction one of these types of facilities, we go through all the regulatory aspects to make sure everything is covered and the first thing we normally come up with is; to buy a plane we have to remit funds, so we may run into some RBI issues in India, the RBI as most of you know regulates remittances and their main concern is to make sure that remittances go out of the country are against the import that comes in. So if Todd is building an aircraft or helicopter for you in U.S, he may want some advance payment as he requested. The RBI wants you to bring in a good that counter balances those remittances and we get into complications because there is a lag time to built planes. So you may have 6 to 9 months or may be a year to build these planes sometimes, you have to go through a special approval process with RBI, to get that special type of clearance. So for us as a Financer who sometimes does construction finance, we have to make sure not only our customer has RBI approval in place, but they have told RBI that we are not sending the money out, our financier is sending out the money. In cases where your bank ,where you have account, in India you have this concept of Authorization Dealers, which are specific banks that can send out money. If

US-India Aviation Cooperation Program

that's the bank that is doing your financing, then it is probably a lot more straight forward. For GE Capital, which is non-banking financing company in India; and is not allowed to itself remit funds, has to go through its own Authorized Dealers.

It creates some complications in RBI approval, which account you can use to remit funds. There has been a lot of variety of responses from customers. Some customers who have good relationship with their Authorized Dealers or with the RBI are able to quickly get the RBI approval in 3 weeks. In other cases RBI might not be familiar with the issue, or whoever you get that day at RBI may not be familiar with the issues. It takes longer time, which delays funding and can change your whatever terms we agreed to because our cost of funds have changed in that time.

So until, I guess from regulatory perspective, I think it would just be helpful if there was a more straight forward process. One to understand that financiers other than just Authorized Dealers could be remitting the fund and two, to have a more straight forward process in approval to do advance remittance and final payment before the actual delivery of aircraft into the country.

So once we get the money out, our next issue is to get the plane into the country and the issues that we generally face as financiers, is making sure that our customer understands the aircraft registration issue. In cases where you are buying from a manufacturer, either a new plane or used plane, the manufacturer generally has a temporary registration number and they can do the ferry flight for you, you just have to negotiate for that an extra cost. In cases if you are buying a second hand plane from another company and generally lot these planes comes from U.S because that is the biggest market for GA and Corporate Jets. That U.S person seller, in my example isn't necessarily going to want to carry the risk of delivery to India, but under the FAA rules, once the title transfer in U.S., they have to notify the FAA that U.S registration is no longer valid. So we can run into problems about how we can get this plane that we have just brought into the country and DGCA has a pretty good framework for this. But it is in my understanding from my sales team that is kind of just used for commercial planes. There is a rule on DGCA books, ask for a temporary registration, you know just like a ferry flight permit, but again we need clarity that how GA purchases can use that, to make sure that has just purchased into the country that's one of the issue we also face.

The last issue is after we get the plane into the country and everything is going fine and until unless our customers has some unforeseen incidents, they can no longer repay our loans. We have to somehow get our plane back. So in India, which has ratified Cape Town and made a lot of headway in this area, the main issue that lender will face here is, actually getting access to the tarmac to make sure that their assets is secure and that we can properly maintain it and have access to make sure that our defaulting borrower does not fly out with it somewhere. But this issue is actually been touched on by almost all the other speakers, and I see if pilots are not getting their passes, lenders probably are further down on the list. So but just an another issue that we face and you know the industry and

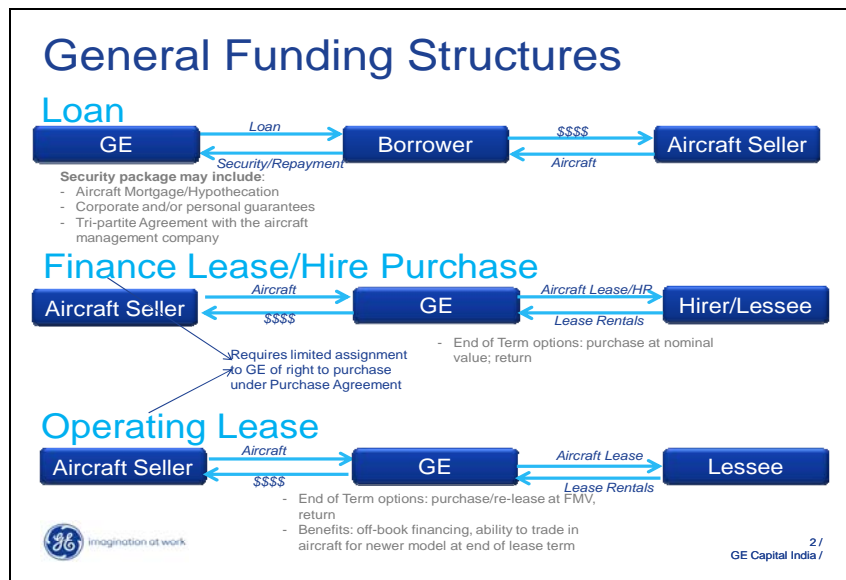
US-India Aviation Cooperation Program

regulators should probably come up with a process to make sure that financiers and people who need to have access to tarmac, to actually secure the aircrafts can do so in a reasonable and timely manner .

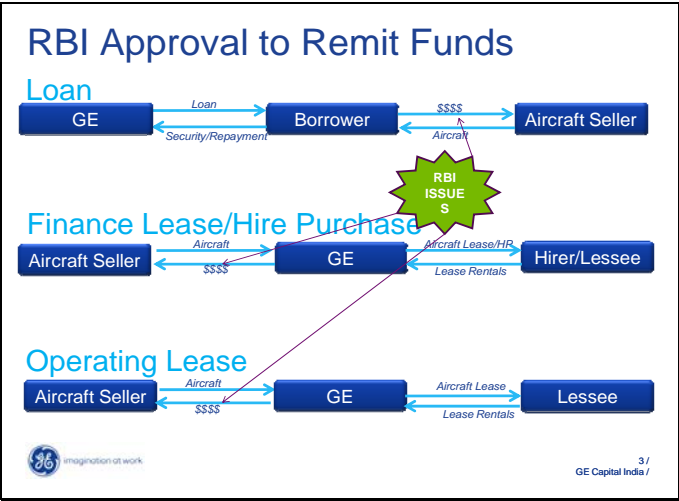
Slide 1



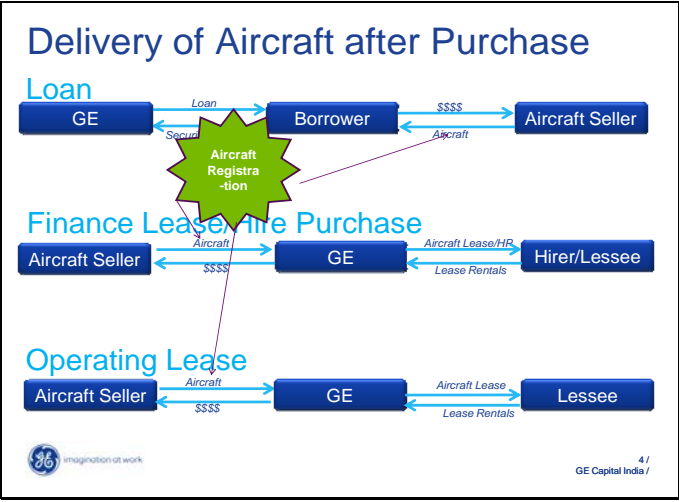
Slide 2



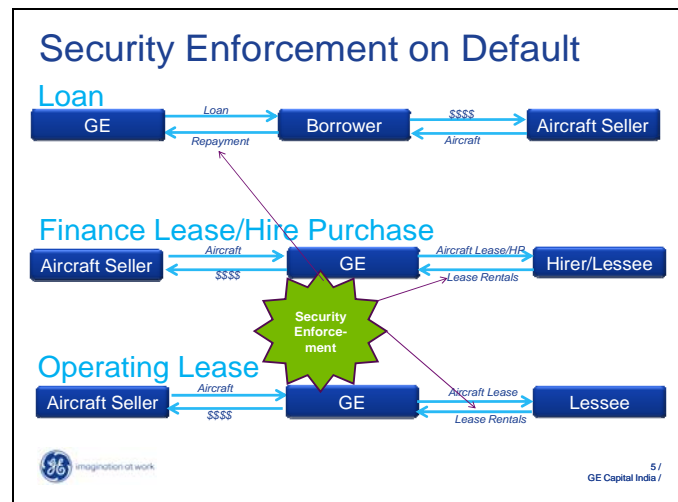
Slide 3



Slide 4



Slide 5



Mr. Sharma: It was quite a good summary of that issues you confront. So far as security is concerned, reinforcement of security is concerned I believe that regime is quite fine. Well I think pragmatically of course, you have an issue with regard to access to the assets. Historically the whole thing went into tail spin when an aircraft of AIR UK was stopped here for some dues of an airline for airport tax, quite some time back and then we came across signatory to Cape Town and of course we had the regulation amended for ensuring that the lessor's interest is also recorded in the DGCA records.

Technical Session 4: Skill-set requirements and MROs in General Aviation
Session Chair: Mr. Charan Das, Joint Director General, DGCA

SOUND TRACK MISSING

Key Trends in shaping the Indian MRO Market
Mr. Dhiraj Chhabra, Associate V.P. Marketing, Air Works

SOUND TRACK MISSING

Slide 1



AIRWORKS
FLY ASSURED

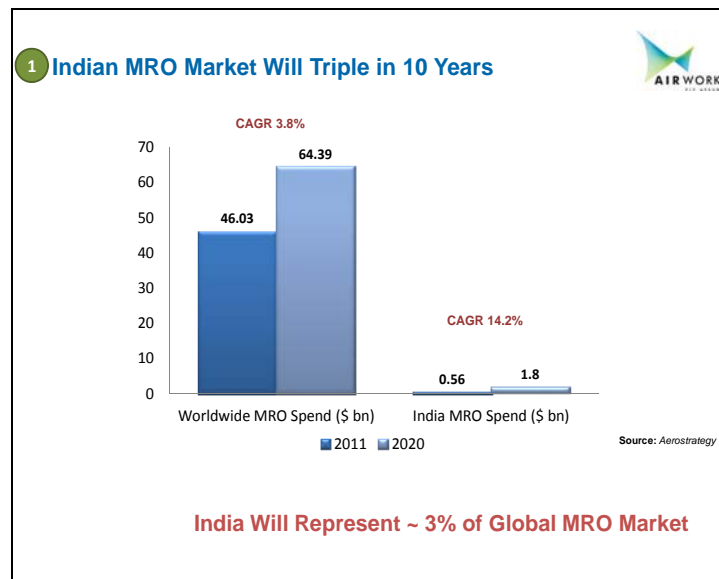
Key Trends Shaping the Indian MRO Market

Presentation by

Dhiraj Chhabra
AVP - Marketing
Air Works

www.airworks.in

Slide 2



Slide 3

2

Shortage of QUALITY Manpower Will Only Grow



Region	Labor Rates in USD per hr
Europe (captive)	100
Europe (3 rd party)	70
U.S. (captive)	90
U.S. (3 rd party)	60
East Asia (ex China)	55
Latin America	50
China	45
India	40

Source: Company Data, Wedbush Securities, Inc.

MRO's in India will need to INVEST in their people

Slide 4

3

Increasing Involvement of OEM's in Aftermarket





Budget Plus



Support Plus



Executive Care



Falcon Care



Smart Services/Smart Parts Plus

Indian MRO's Will Need to Invest in Tooling and Training

Slide 5

Key Learning for Indian MROs

OEM's are key to development of MRO Market

- Tap into experience and understanding of the market they bring
- Leverage the Singapore example:
 - ✓ Has OEMs from US, UK and Europe present independently or through JV
 - ✓ Is home to 100 MROs contributing to 3% of Global MRO Market

Globally recognised certifications – need of the hour

- EASA/FAA certified MRO's help increase the addressable market
 - ✓ Allow certification of European and global aircraft flying into country
 - ✓ Help establish credibility & position India as a hub for heavy maintenance

Slide 6

Air Works at a Glance

Recipient of

The 2011 AVIATION WEEK MRO OF THE YEAR AWARD

CAAS (Singapore), DGCA (India), EASA & GCAA (Middle East)

AIRBUS

A 320

AR

42-72

BOEING

737 NG/Classic

Approved MRO for

AgustaWestland

Gulfstream

Bell Helicopter

Hawker Beechcraft

BOMBARDIER AEROSPACE

DASSAULT AVIATION

Honeywell

EMBRAER

Rockwell Collins

Authorized Service Facility for

ISOQAR QUALITY IN AEROSPACE

UKAS QUALITY MANAGEMENT

ISOQAR QUALITY ASSURED

UKAS QUALITY MANAGEMENT

Certified by ISO Standards

026

026

MRO- India Challenges: The Helicopter View

Excerpts from address by: Mr. Mike Meyer, CEO, Indocopters Pvt. Ltd

I should think that there are two industry bodies, may be each of them speaking their own voices and then we started speaking the same language and if you look around here, I think that there is general agreement about. What the key things are? What we need to do about them? And certainly don't want to miss the reinforcement of the safety and quality agenda. And this is something which DGCA is certainly been pushing; likely Safety Management System (SMS) which again is tremendous, to see coming in, tremendous, to see being implemented across the industry, common standards. All those who has been involved in US and UK, its very much similar and very much what we are used to? Talking little bit about safety, I think the best safety in India, is as good as any in the World, but I think that is bearable , and some of it frankly not as good, as I think it should be. But I think as long as these safety management systems and this sort of thing get the direction from the DGCA, as long as they are implemented across the industry, then I think that will generally bring out the whole quality of the work here, and I think that will support in bringing standards here to the same standard as in EASA or FAA, which then enables the industry here to very much to participate in the global aviation support often.

I think finally, support from the OEMs, we need to do things ourselves; or we need to get authorities working with us and giving us the most advantageous regulatory and safe environment. But I think we are looking more for OEMs as well. I think the costs we have to live with, are out of line with lot of customers willing to pay. I think if you look at the possibilities in terms of the local training, so we don't have to send people to Europe to be trained on Euro-copter Augusta Westland machines, localization of the completion of the helicopters, painting, interiors that sort of things, an area where we have very significant cost advantage compared with OEMs doing that sort of thing themselves in Europe or US.

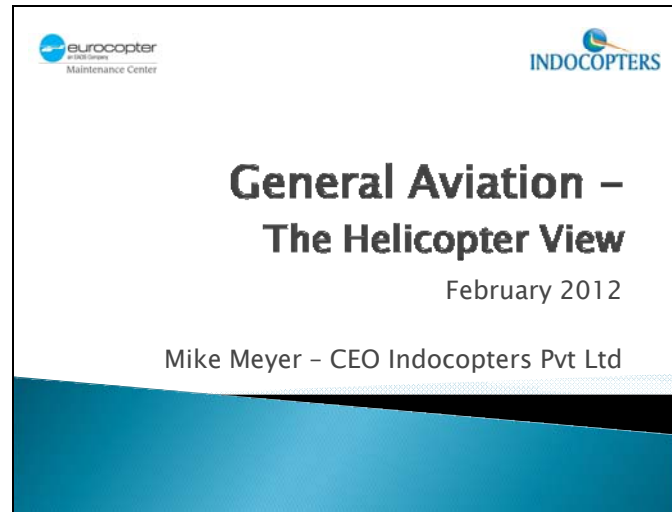
Component overhaul, my company is looking and trying what we can do to try and prevent all these components going out of India, being repaired elsewhere. What we can do to keep them in the country? Needless to say, that we are also running into the problem of tax and so forth. I think the way forward for us, is to take our own component and that starts opening up the field to pull components from outside, as long as we can keep our costs, so that there is a significant difference. The costs are creeping up so that they are comparable with the Middle East, OEMs in US or Europe, then I think that we have got real issues

The final point, I would make, it in time for action. I have been in India for two years. When I first came, I attended these sorts of seminars; I was hearing the same sort of things same thing, as I am hearing now. I know it take time to get things done, takes time to get things done anywhere. But I have been patient, so let us see the action authorities. Instead of talking about what they are going to do, let them do it.

US-India Aviation Cooperation Program

These helipads, where are they? Let us have them operational. Let us push through the safety agenda which seems to be happening and then we will start delivering the sort of numbers which we talked. Pawan Hans increasing their aircraft numbers six fold in four years will be, I think a challenge.

Slide 1



Slide 2

The slide has a white background with a blue gradient at the bottom. It includes the Eurocopter logo (top left) and the INDOCOPTERS logo (top right). The title "Introduction" is centered in a large, bold, black font. Below the title is a bulleted list of information about Indocopters and its services.

- ▶ Mike Meyer – Chief Executive, Indocopters Pvt Ltd
 - With ICPL for 2.5 yrs, CEO since Feb 2011
 - Previously with Bristow Helicopters in Europe and USA
- ▶ Indocopters – part of the Vectra Group
 - Rapidly growing helicopter focused MRO organisation
- ▶ Based at Greater Noida facility near Delhi
 - With maintenance bases at Greater Noida, Delhi IGI, Mumbai, Bhubaneswar and Bangalore, covering entire country
- ▶ Aircraft Sales – Eurocopter Commercial Partner
- ▶ CAR 145 & Authorised Service Centre for Eurocopter Helicopters
 - Maintain – AS350B3, AS355, EC120, EC130, EC135, EC145, EC155, AS365
 - Maintenance of other manufacturers aircraft
 - Bell, Agusta Westland, and Enstrom
- ▶ Spares support for EC and other aircraft
- Representatives in India for major international aviation suppliers

Slide 3



Slide 4

The slide features the Eurocopter Maintenance Center logo on the top left and the INDOCOPTERS logo on the top right. The main title is "Issues Helicopter industry faces".

- ▶ Infrastructure
 - Lack of Helipads and facilities
- ▶ Common operating procedures at airports
- ▶ Common regulatory environment to commercial airlines
- ▶ Restrictions on what helicopters are used for
- ▶ Costs
 - In Euros and Dollars
 - Questions of taxation & duty
 - Charges imposed by airport authorities
- ▶ Intensely competitive environment
 - Maintenance rates are reducing at 10% per annum
- ▶ Availability of skilled resource
- ▶ Fragmented industry
 - Hinders investment & best practice



Slide 5



Issues Helicopter industry faces

- ▶ MRO
 - Airport access
 - Availability of skilled resource
 - AME endorsement & licensing
 - Customs clearance
 - Spare parts holdings
 - Tooling importation
 - Maintenance approvals
 - STC approvals



Slide 6



Why Helicopters?

- ▶ So why develop a helicopter industry?
- ▶ As a driver of economic growth
 - Helicopters are not just a rich man's toy
 - Fundamental to anyone where time is of the essence
 - Speed up point to point access
 - Access the inaccessible
 - Mountain and other remote areas
- ▶ Open up new areas and new businesses
 - Consider how the helicopter has fundamentally altered religious tourism
- ▶ Some jobs cannot be done otherwise
 - Heavy lift, power cable cleaning



Slide 7



Tapping the Potential

- ▶ What do we need to develop the industry?
- ▶ Industry must take the initiative
- ▶ Open up other sectors to the helicopter
 - HEMS, ENG, Heavy lift, Para-public & military support
 - Apply necessary resources
- ▶ Supportive Regulatory Environment
 - Support from Government and the authorities
 - Good to hear of the Helicopter plan – 25 years
- ▶ Industry bodies speaking with one voice, focus the views of a fragmented industry
 - BAOA, MRO Association of India
 - Government listening and acting
- ▶ Reinforcement of the Safety & Quality agenda
 - Ensuring primacy of Safety & Quality
 - Consistent Safety & Quality across the industry
 - Safety Initiatives

Slide 8



Tapping the Potential

- ▶ Support from the OEMs
 - Costs out of line with what Indian companies can afford or will pay
 - Training, localisation of completion, finishing in country, component repair & overhaul
- ▶ Develop the necessary skill sets
- ▶ ACTIONS
 - Turn potential into reality
- ▶ BUT Above all – Quality & Safety

Mr. Charandas, JDG, DGCA:

Mr. Mike has given various suggestions, how we can improve the helicopter industry. I will give some points regarding the labor point of view which Mr. Mike has raised during his presentation. Availability of the skilled resources or the man power, in fact I do agree that the skill man power, we don't have but we have the basic man power. Regarding the helicopters and aeroplanes, we have around 53 Aircraft Maintenance Engineers (AME) schools where they give basic training as a technician to the student and after that they have to come out with different streams whether they want to go to the rotary wing or the fixed wing. The latest regulation is now reduced, that you must have D1 and D2 lessons. D1 is further divided into the Aeroplanes and Helicopter, D2 is the avionics lesson. It means you get at par with the other standard which Europe and FAA they have and then our maintenance approval as Mr. Dinesh has stated that if you take a FAA and EASA approval that will be recognized with other countries. Here also our approval standard we are trying to maintain the same as other countries, so that we have fewer problems as the other country inspect our facility in India. He has raised a valid point about the Supplemental Type Certificate (STC) approval. Let me tell you we have come out with CAR-21 which is at par with EASA part 21 or FAR 21. It is a no much difference in that and we do give the STC provided that MRO has access to design data with the Type Certificate (TC) holder. If the MRO says that we have access to design data for that supplement type certificate with the type certificate design organization, we don't hesitate we will go forward. In some cases what we did, when they don't have and they show their capability, we consider as a modification. Because when you want to take STC approval from us you should have an agreement with the main TC holder. So this point I want to make very clear, if any problem is there, we have the Airworthiness Inspection Department (AID) well developed because during our Bilateral Aviation Safety Agreement (BASA) process with US FAA, we have developed a system and as per the system we can give the STC, there is no problem to that.

Regarding enforcement and safety quality, DGCA has started in 2009; we call it the surveillance program, it has been put on the DGCA website from 2009 onwards and there we define all the operators which activity of that, which month which officer will inspect to maintain transparency in that. But after getting three years data from the aviation industry, we have modified the system and this time we are going for a regulatory audit process and where there is a need to go for surveillance. Earlier the surveillance was hundred percent, but where we find that there is need, where there is weak area, we will only target the weak area in the surveillance and we will carry out the audit surveillance for all the aviation activities. We have just mandated that any organization operating ten or more helicopters or aeroplanes or mix we will carry out inspection on that and with that data we analyze and tell each operator what are their weakness and without identification we put on our website, so that the industry knows that in the Indian aviation these are the weak points of the operator or the MRO, so that they can improve upon it.

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Further on component overhaul point that was raised, I do agree that for the overhaul of the component we need support from the OEM. But that is very easy, we do not need licensed people but like in the world, we need approval holders and its link to the task. What task you are giving to the person to carry out the component overhaul. He should have the basic knowledge of the task and training and experience and company quality manager or quality assurance people can give their approval for that they should develop their Maintenance Organization Exposition (MOE) manual. There they should define their policy how they can carry out. So I think he has raised a number of points, some points I sum it.

Our next speaker is Mr. Pullock Sen. He is currently Editor-in-chief of Aviation India and also Chairman of MRO India. The first edition of MRO was in Bombay March 15 to 18 last year and I was one of the speakers in that.

The Status of MRO in India

Excerpts from address by : Mr. Pullock Sen, Chairman MRO India

You all aware that Indian commercial aviation MRO business is around \$700 million per annum, with a potential to grow US \$ 1.2 billion in 2020. Business aviation likewise at the current rate of US \$50 million has the potential to grow in access by US \$100 billion by 2020. Many of the speakers have told this, what happens when you become the last speaker. Very pertinent to note that, India and Singapore are growing at the same rate of 3% globally, but you see the mismatch between Singapore and India, and I don't know why this is happening.

You have all worked closely with MROs and you will know that tax and duty structure on key imports of goods form a significant in any sector, likewise in MRO sector is not an exception. The tax structure in India hinders the growth of this sector when compared to the world, this makes the sector uncompetitive. Sincere efforts to ensure progress and evaluation of local MRO, repetitive plea from the industry have not been heard or have not reached the right quarters still now. The Indian private sector industry has been facing regressive and differential treatment in terms of tax and duties; they have to pay as against foreign OEMs. The tax structure is a definite deterrent today. Resultantly, differential tax and duty treatment for local MRO sector, private MRO players are at a disadvantage, there by restricting their contribution and efforts in strengthening the local capability and to largely indigenize the sector and reverse the import indigenization ratio in favorer of the Indian industry, through significant import substitution.

According to Mr. Somesh from Legal Alley, that high taxation regime makes aircraft service about 20-30% more expansive than international rates; perhaps even more in cases of Gulf countries. That may spell trouble for over a dozen MRO projects involving forging direct investment which are

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coming now. There are foreign direct investments in MRO industry at the moment, but limited to very small stakes, because people want to test the waters.

I'm talking about the tax regime. For instance, servicing an aircraft in India, would entitle service tax of 10.3 %, overseas MROs do not charge this. Importing spares involves custom duties of up to 18% plus value added tax of 12.5% and octroi of 5.5%, totaling about 41% or there about. The imposition of the custom duty is particularly unusual, because Indian airlines importing spares are exempted conditionally. If an MRO is doing work for an airline industry and the airline imports the spares that are required, airline is not charged any custom duties, whereas the MRO if it does import for any other private operator or business aviation aircraft it is charged custom duty. Currently no exemption is provided from service tax on taxable services which include maintenance and repair provided to the aviation sector. Moreover general concessions are not currently provided on VAT and CST laws.

There are a few points, major areas that need to be addressed as soon as possible. The point I would like to make is that not clubbing the MRO services with the ground handling services at the airports. As MRO service is much more than cabin, gallery, and toilet cleaning as it involves technical mind power and services. Giving MRO sector status the industry sector is necessary, if the government to develop it and bring the exchequer some foreign exchange. Heavy taxation is the prime reason that the industry is lagging behind, despite having low-cost and India being geographically located in the center of East and West. I think we are in right position to take this. I am not proposing a tax free regime here, but a uniform taxation regime. The point no.4 is custom duty and slow clearance procedure put yet another spoke in the process of MRO sector and also the aviation Industry in India. Custom clearance can take between 3 to 10 days if you are lucky and defeats the requirement of AOG. You can have an aircraft on Aircraft on Ground (AOG) and customs doesn't clear it.

I would like to cite an interesting example here, Brazil which is similar to our country like India; In Brazil what has happened is aviation is at same stage as ours today and the Brazilian authorities have devised something called the “**Blue Channel**” prevalent in EU, where the travelers between EU countries don't have to pay custom duties VAT and excise duties, may be applicable if the goods are subsequently sold. So can pass through the custom without paying any of these to the final destination, but they are collected when the goods are sold, not at the points, custom points. It should be implemented in India as well, and the association is working towards it to bring the awareness with all this to the government.

In India we have skilled English speaking man-power, at a very competitive man-hour, as Mr. Dhiraj mentioned \$40 an hour. However we require the proper training and with a semester for job training for the technicians at any of the MROs or airlines where they can actually learn the job,

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because the schools that I have seen they have equipment which are not operational. Unless and until a person works on an aircraft or an engine or a component, you'll not actually understand what he is trying to do.

Focusing on this important segment of the aviation industry, Indian aviation, my own publication started the country's first focused MRO exhibition and conference which we call MRO India. The first event took place in March last year, and the next one is in September this year 25th to 27th. We would like participants to come to this event, have a debate and we'll try and get the finance ministry, the customs and civil aviation of course to come over there and debate over the problems and try to put an end to it, sooner the better. Also last year, the MRO association welcomed companies with MRO and allied activities, it is the lobby and we are working closely with the various government ministries and submitted a white paper on taxation affecting the MRO industry to the ministry of finance through the civil aviation through Mr. Sahi's kind cooperation and for consideration of the some of the points in the central budget this year, 2012. We hope some of the suggestions will be accepted.

Mr. Sen, in fact this is one of the major factor that taxation on the MRO is an issue. In the past meeting also this was raised and it was decided that we should call some financial or from ministry of finance to discuss as he says that that white paper has been given to the ministry of civil aviation and we hope we are working for that and get the results soon.

Questions and Answers

R.P. Sahi: My question is to Dheeraj Chhabra, You have EASA approvals and perhaps FAA approval also.

Dheeraj Chhabra: EASA

R.P. Sahi: You went through the process all by yourself, because in the MRO seminar it was a recommendation that the MROs would have good business if they have EASA approval because it's universal acceptance which is very good. So do you at all need any regulatory support from the DGCA or the government in getting this, because you didn't because you went by yourself?

Dhiraj Chhabra: Correct

R.P. Sahi: So what sort of regulatory assistance or the government assistance could be needed by an MRO in getting those foreign countries' approvals?

Dhiraj Chhabra: I think the part of the issues are being addressed by the regulator largely by revamping our internal DGCA systems to align themselves to EASA so the CAR-145, so that definitely has helped. I will also let you know that not only we have EASA approval on the airline

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side, but very recently in last 3-4 months we went through an audit of Delhi facility, that Delhi hanger in this country and very important that EASA approval for the GE facility as well. So our experiences being that if we follow the process laid out, which is as clear laid out by DGCA, at the same time try and implement three or four sets of processes which are there in EASA or FAA, do that diligently, do not cut corners you will get the approval. The only key here is, you need to make an investment in having the right amount of tooling, having the right infrastructure in terms of hanger facility and training the people. The onus is more on MRO rather than the regulator.

R. P Sahi: The perception use to be that you have to have a maintenance order from an aircraft registered in their country. Then only they will come and inspect you and give their approval. Is that correct? or if you are capable, then in any case they will come on your application.

Chhabra: FAA will not give you an approval in India, to be FAA certified; unless you say that you have American aircraft flying into the country that need that maintenance. With us because of the proximity, it is much easier to get the EASA approval. So we have had inquiries in the past where the customers has been flying into India, specially, Delhi, on the GA side and have asked us, is it possible for me to get the maintenance done here locally and we have used that to try and get the approval. So you are right, we need some kind of letter of intent, pretty much like DGCA asks us, if you want an enhancement in your approval.

Question: Mr. Chhabra has projected that in next 10 years we'll have the 3% of the global MRO market share. Our fleet size is 1% of the global fleet, so we must be happy I think if we get that 3%.

Mr. Chhabra: Sure, the fleet size is also going to grow in India, other thing, from an MRO prospective, in India, where it is located strategically from location stand point, we can target not only the fleet here in India but a lot of fleet flying in Middle-East and South East Asia as well. It is a question of developing ourselves as a hub to be able to get that growth. So this growth projected by analyst is not enough, as an industry we need to make the investment to go there.

R.P. Sahi: Just to add on some point to Mr. Chhabra, this is the first time I am hearing that MRO has said that the onus lies on MROs and not on DGCA, otherwise we have been only listening like DGCA regulations are tough and we are not able to meet. At least he has confessed that onus lies on MROs for development, not on the regulator.

Answer: I will comment on that. Because, if you see it, because there are two separate regulations in DGCA,, one regarding the maintenance and one regarding the operations. Of course, Aerodrome and others are there. Regarding maintenance side we are at par with the developed county like EASA and FAA and our regulations that we develop we take the guidance from this developed country regulations and even though we make the difference on that. In the recent past a group has been

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developed that is called South Asia Regulatory Institute (SARI). That contains our India, Sri Lanka, Nepal, Pakistan, Bhutan and all so these countries are developing regulations with, we are looking the future that there would be one regulation in all these countries and that regulation will be based on EASA and FAA. So the other countries, Europe countries are coming, they see our regulations. First of all as he says that when we got EASA approval, it is very easy because when they saw the regulations, they were same as the EASA regulation.

Only the implementation of the regulations differs here and there. So I have checked the implementation process, what are the process they have developed to implement that, and if they show that; MRO has to invest in that. So in the MRO side, we are quite better in the regulation point of view, of course taxation we are still to go

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