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CIVIL AVIATION

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SCOPE Convention Centre, New Delhi

Reimagining HR: Global Competitiveness and New Age Workforce



About the Theme

Human Resources function in today's time and era is witnessing both opportunities and challenges, because of two new age influences "changing workforce dynamics" and "global competitiveness". With this context, we present to you the theme of the summit – "Reimagining HR: Global Competitiveness and New Age Workforce", aimed at highlighting innovative HR practices at the global level and approaching Human Resources function from a futuristic perspective.

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भारत सरकार
लोक उद्यम विभाग
भारी उद्योग एवं लोक उद्यम मंत्रालय
Government of India
Department of Public Enterprises
Ministry of Heavy Industries & Public Enterprises



MESSAGE

I am happy to note that the Standing Conference of Public Sector Enterprises (SCOPE) is bringing out a special issue of its magazine 'KALEIDOSCOPE' on the Aviation Industry.

In the recent past there has been a phenomenal growth in the Indian aviation sector. The Government has taken a number of initiatives to attract investment in this sector by focussing on improving infrastructure of the aviation sector and creating world-class airports in the country.

The Central Public Sector Enterprises (CPSEs) have played a significant role in the development of the Aviation sector of the country and I am sure they will continue to do so in the future also.

The Government has introduced an ambitious plan to make the country one of the largest aviation hubs in the world in the form of UDAN (Ude Desh Ka Aam Naagrik). This is a regional connectivity plan for making flying an affordable medium for all sections of the society. It is an excellent opportunity for the CPSEs in our Aviation sector to expand their operations and contribute to the task of nation building.

I compliment SCOPE for bringing out a collection of articles of experts from the Aviation Sector for this special issue. I am sure this will facilitate meaningful discussions on this important issue.

(Seema Bahuguna)

आर. एन. चौबे, भा. प्र. से.
R. N. Choubey, I. A. S.



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MESSAGE

Civil Aviation is one of the most important sectors globally, and in India it is on the rise. The growth of the Civil Aviation sector has a cause and effect relationship with the economy which means that while the economy has a big role in the functioning of the Civil Aviation Sector, the sector's growth has an important effect on the country's economy as well.

2. India is poised to become the third largest aviation market by 2022 and to work towards achieving the same, the Government has been taking several steps. Creation of institutes for imparting skills and to workforce and installation of latest technologies are among significant steps undertaken for the growth of the sector.

3. The latest Civil Aviation Policy 2016 is a step towards the same. The policy aims to establish world class aviation infrastructure while keeping the domestic consumers in mind. The idea is to make flying affordable for all besides making it convenient and safe. If we wish to become a world class aviation market, dedicated efforts need to be made by our Public Sector Enterprises as well.

4. I am happy to learn that Standing Conference of Public Enterprises (SCOPE) is bringing out a special issue of their monthly magazine KALEIDOSCOPE on the Aviation Industry that draws focus to the important aspects of the sector.

5. I wish SCOPE all success for its magazine and extend my best wishes for its future endeavours.

(R.N. Choubey)



CHAIRMAN'S DESK



The Civil Aviation Sector has come to play a major role in today's globalized economy. It is growing at an incredible pace and the future of the sector is very bright. The Hon'ble Prime Minister, Shri Narendra Modi, in a speech recently stated that "...In civil aviation, India is currently the eighth largest market in the world and is set to become the world's third largest by year 2034."

The significant growth of the sector could be mainly credited to the increase in tourism, development of smart cities, with emphasis on setting up modern airports, and acquiring low cost carriers to improve regional connectivity. Also the middle class population of India, over last few years, has grown both in numbers and their earning capacity, which in turn implies that travelling by air is becoming more and more affordable. According to the available data, the passengers carried by domestic airlines during Jan-Nov 2016 were 903.36 lakhs as against 733.82 lakhs during the corresponding

period of the previous year, thereby registering a growth of over 23%. With the increasing affordability of Indian customers, the future of the aviation sector seems to be on a high growth trajectory.

However, there are also significant challenges facing the sector. The irony of the Indian Aviation Sector is seen through the fact that though there is a promising future, yet India remains the least penetrated market, with 0.4 trips per capita per annum, compared to 2 in the US. Therefore, the next big opportunity for the sector lies in broadening the base through greater air connectivity in Tier II and Tier III cities. For this, there is an urgent need to focus on building skilled manpower that will fill the gap between the demand and supply for a variety of disciplines related to the sector. Building new airports and expanding the existing ones will also enhance the growth of aviation sector.

India is now also seen as a favorable destination for foreign investors and this has been achieved through Government of India's 'Make in India' Initiative and also allowing FDI through the automatic route upto 100%.

The year 2016 has proven to be a turnaround year for the Aviation industry and the first integrated Civil Aviation Policy has been brought out by the Civil Aviation Ministry with the aim to make the country's regional air connectivity a reality, besides its safety and affordability.

However, Indian Civil Aviation industry still has a long distance to go. With right policies and a balance between cost, quality and service, the sector would certainly be able to achieve its ambitious growth targets.

We have come out with this special issue of KALEIDOSCOPE dedicated to the Indian Civil Aviation Sector, its challenges and opportunities. I am glad that this issue would serve to be an important document for the various stakeholders of this sector, service providers as well as the users.

A handwritten signature in blue ink, appearing to read 'Ved Prakash'. The signature is stylized and fluid, with a long horizontal stroke at the end.

Ved Prakash
Chairman, SCOPE

National Civil Aviation Policy, 2016: Salient Features

The Minister of Civil Aviation Mr. P. Ashok Gajapathi Raju released the National Civil Aviation Policy 2016 on 15th June, 2016. This is the first time since independence that an integrated Civil Aviation Policy has been brought out by the Ministry. Speaking on the occasion Mr. Raju said that the centre-piece of the policy is to make regional air connectivity a reality. He said that the policy aims to take flying to the masses by making it affordable and convenient, establish an integrated eco-system which will lead to significant growth of the civil aviation sector to promote tourism, employment and balanced regional growth, enhance regional connectivity through fiscal support and infrastructure development and enhance ease of doing business through deregulation, simplified procedures and e-governance.



Mr. P. Ashok Gajapathi Raju, Union Minister, Civil Aviation & Dr. Mahesh Sharma, MoS (I/c), Culture & Tourism and the then MoS, Civil Aviation releasing the National Civil Aviation Policy 2016.

The policy is very comprehensive, covering 22 areas of the Civil Aviation sector. Its salient features are as follows :

Regional Connectivity Scheme

- This scheme will come into effect in the second quarter of 2016-17
- Airfare of about Rs. 2500 per passenger for a one-hour flight
- Revival of airstrips/airports as No-Frills Airports at an indicative cost of Rs.50 crore to Rs. 100 crore
- Demand driven selection of Airports/airstrips for revival in consultation with State Govts and airlines
- Viability Gap Funding (VGF) to airline operators
- RCS only in those states which reduce VAT on ATF to 1% or less, provide other support services and 20% of VGF
- Concessions by Stakeholders
- There will be no airport charges
- Reduced Service tax on tickets (on 10% of the taxable value) for 1 year initially
- Reduced Excise duty at 2% on ATF picked at RCS airports

- State government will provide police and fire services free of cost. Power, water and other utilities at concessional rates
- Creation of Regional Connectivity fund for VGF
- VGF to be shared between MoCA and State Governments in the ratio of 80:20. For the North Eastern States, the ratio is 90:10

Route Dispersal Guidelines (RDG)

- Category I to be rationalized based on a transparent criteria, i.e., flying distance of more than 700km, average seat factor of 70% and above and annual traffic of 5 lakh passengers
- The percentage of Cat.I traffic to be deployed on Cat. II, and IIA will remain the same while for CATIII it will be 35%.
- Revised categorization to apply from winter schedule of 2017
- There view of routes will be done by MoCA once every 5 years
- All airlines can now commence international operations provided that they deploy 20 aircraft or 20% of total capacity (in term of average number of seats on all departures put together), whichever is higher for domestic operations

5/20 Requirement

- Replaced with a scheme which provides a level playing field
- All airlines can now commence international operations provided that they deploy 20 aircraft or 20% of total capacity (in term of average number of seats on all departures put together), whichever is higher for domestic operations

Bilateral Traffic Rights

- GoI will enter into 'Open Sky' ASA on a reciprocal basis with SAARC countries and countries located beyond 5000 km from Delhi
- For countries within 5000 km radius, where the Indian carriers have not utilised 80% of their capacity entitlements but foreign carriers /countries have utilised their bilateral rights, a method will be recommended by a Committee headed by Cabinet Secretary for the allotment of additional capacity entitlements
- Whenever designated carriers of India have utilised 80% their capacity entitlements, the same will be renegotiated in the usual manner.

Ground Handling Policy

- The Ground Handling Policy/Instructions/Regulations will be replaced by a new framework:
- The airport operator will ensure that there will be three Ground Handling Agencies (GHA) including Air India's subsidiary/JV at all major airports as defined in AERA Act
- At non-major airports, the airport operator to decide on the number of ground handling agencies
- All domestic scheduled airline operators including helicopter operators will be free to carry out self-handling at all airports through their regular employees
- Hiring of employees through manpower supplier or contract
- Workers will not be permitted for security reasons

Airport PPP/AAI

- Encourage development of airports by AAI, State Governments, the private sector or in PPP mode
- Future tariffs at all airports will be calculated on a 'hybrid till' basis, unless specified otherwise in concession agreements. 30% of non-aeronautical revenue will be used to cross-subsidise aeronautical charges
- Increase non-aeronautical revenue by better utilisation of commercial opportunities of city side land
- AAI to be compensated in case a new greenfield airport is approved in future within a 150 km radius of an existing unsaturated operational AAI airport (not applicable to civil enclaves)

Aviation Security, Immigration and customs

- sMoCA will develop 'service delivery modules' for aviation security, Immigration, Customs, quarantine officers etc in consultations with respective Ministries/Departments
- Allow Indian carriers to provide security services to other domestic airlines subject to approval of BCAS
- Encourage use of private security agencies at airports for non-core security functions to be decided in consultation with MHA
- Such agencies should be registered under the Private Security Agencies (Regulation) Act, 2005 and will also be separately accredited by BCAS
- Subject to minimum benchmarks being met, security architecture at the different airports will be proportionate to the threat classification and traffic volume.

Helicopters and Charters I

- Separate regulations for helicopters will be notified by DGCA after due stakeholder consultation
- MoCA to coordinate with Govt agencies and other helicopter operators to facilitate Helicopter Emergency Medical Services
- Helicopters will be free to fly from point to point without prior ATC clearance in airspace below 5000 feet and areas other than controlled or prohibited or restricted airspace
- Airport charges for helicopter operations will be suitably rationalized
- The existing policy of allowing Inclusive tour package charters will be further reviewed to include more categories of passenger charter flights recognised globally.

Maintenance, Repair and Overhaul

- MoCA will persuade State Governments to make VAT zero-rated on MRO activities
- Provision for adequate land for MRO service providers will be made in all future airport/heliport projects where potential for such MRO services exists
- Airport royalty and additional charges will not be levied on MRO service providers for a period of five years from the date of approval of the policy

Aviation Education and Skill Building

Estimated direct additional employment requirement of the Civil Aviation Sector by 2025 is about 3.3 lakh. All training in non licensed category will conform to National Skill Qualification Framework standards. MoCA will provide full support to the Aviation Sector Skill Council and other similar organisations/agencies for imparting skills for the growing aviation industry . ■ ■ ■

Source: PIB Press Release

Challenges and Opportunities in the Civil Aviation Sector in India



R. N. Choubey, IAS

Secretary
Ministry of Civil Aviation

Transport is a major driver of the economy of which civil aviation is an important part. Linkage between civil aviation sector and economic activity and its catalytic impact on general development is now well recognized. The development in the Civil Aviation Sector not only leads to growth of its own sub-sectors but also acts as stimulant to other sectors like tourism, hospitality, manufacturing, skill development etc. As per an International Civil Aviation Organisation (ICAO) study, the output multiplier and employment multiplier are 3.25 and 6.10 respectively.

During the last one decade the civil aviation sector has grown at a phenomenal pace and India has emerged as the 10th largest civil aviation market in the world. Indian aviation currently has scheduled air services available to/from 78 airports (only 50 in early 2000); enhanced national and international connectivity - 76 foreign airlines are operating to/from various destinations; bilaterals with 114 countries; 2060 International flights utilizing

5,09,074 seats per week; 5 Indian carriers are operating in 25 countries; capacity is also to increase in the next three years with a huge jump in number of Aircraft likely to join for scheduled operations. As against 395 aircraft for schedule operations on 1st April, 2014, orders have been placed for 374 new aircraft between 2014 and 2016.

Civil Aviation in India is on a high growth trajectory. Growth in domestic passenger traffic in India has been around 23% while the world average has been around 5.8% and the closest is China at 14% as per IATA's October analysis. Cargo traffic has also improved with CAGR for Cargo being 8.9 during 2014-16. As per CAPA investment database, during 2014 - 2016, there has been private investment of Rs. 6625 crore in the aviation sector, with Rs. 3200 crore in airport, Rs. 3100 crore in airlines and around Rs. 325 crore in general aviation. In addition, Airports Authority of India has invested around Rs. 4000 crore in the development of airports.

India has the potential to become

the third largest aviation market. It has an ideal geographic location, a large middle class and a rapidly growing economy. However, in a country of 127 million, less than 1% Indians fly. The root cause for this is that aviation is perceived to cater to the needs of the 'elite'. Development of this sector is both a challenge and an opportunity.

Sustained growth in passenger traffic, cargo, helicopter operations etc along with the induction of new aircraft and new technology brings with itself several challenges:-

- **Aircraft and aerodrome safety:** increased air traffic will lead to pressure on the safety regulator which will have to be dealt with adequate capacity building.
- **Airspace congestion:** Increase in passenger traffic, leading to increased aircraft is naturally going to lead to situation of airspace congestion if not dealt in time with appropriate measures like Flexi use of airspace, etc.
- **Infrastructure constraints:** CAPA's November, 2015 assessment indicated that India will require almost 50 more airports to



be constructed in next 15 years. This gets aggravated further given land and funding constraints.

- **Aviation is a capital intensive industry:** It is anticipated that in the coming decade approximately Rs. 2 lakh crore will be required. Investment in this sector is primarily private sector driven and the Government needs to provide the requisite regulatory framework.

- **Lack of aircraft leasing companies in India:** In the current scenario, airlines prefer taking aircraft on lease instead of outright purchase. However, all leasing companies are based overseas requiring payments in foreign exchange and higher rates.

- **High Fuel cost:** ATF prices in India have a significant impact on the operating costs of airlines.

- **Skilled manpower:** There is a shortage of trained and skilled manpower in the aviation sector. Moreover, the industry is unable to retain talented employees. According to certain estimates, the incremental human resource requirement of the Civil Aviation Sector by 2025 would be in the region of 3.3 lakhs. CAPA's ATM

report 2016 estimated a shortage of 5000 ATCOs in next 5 year. Shortage of manpower raises the cost of operations of airlines/airports/MROs etc. on the one hand and on the other, has safety implications as well. It is, therefore, pertinent to address these shortages on priority.

- New technology and new types of aircraft like Remotely Piloted Aircraft Systems will put strain on the safety and security architecture.

- High charges and high turnaround time in cargo has resulted in low air cargo volumes in India as compared to other leading countries.

Despite the challenges, there are several opportunities which present themselves before us and are the drivers towards the development of this sector. As already mentioned earlier, India has an advantageous location between eastern and western hemisphere, a large middle class with growing disposable income. If every Indian in middle class income bracket takes just one flight in a year, it would result in a huge jump. India has a huge tourism

potential both for domestic and international tourist. The recent initiatives on e-visa have given a push to international tourism. India has over 400 airports/airstrips, some from the World War II era which can be revived and made operational with limited costs and without problems of land acquisition. Demand for express delivery brought about by the boom of E-commerce has positively affected air cargo demand. Phenomenal growth in E-commerce will contribute to more demand in air cargo market, considering the fact that significant portion of e-retails are traded through air cargo. Air cargo, particularly domestic has a high employment potential, especially for semi-skilled workers. The MRO business of Indian carriers is around Rs. 5000 crore, 90% of which is currently spent outside India. Given our technology and skill base, India can be developed as an MRO hub in Asia, attracting business from foreign airlines. Helicopters play a key role in remote area connectivity, intra-city movement, tourism, law enforcement, disaster relief, search and rescue, emergency medical evacuation, etc. India currently has less than 300 civilian helicopters which is very low as compared to other developing nations.

With a view to harnessing the opportunities and to deal appropriately with the challenges facing the sector, Government notified the National Civil Aviation Policy 2016. For the first time since Independence an integrated policy covering all the sub-sectors of aviation has been released. The Policy focuses on creating a sustainable long term framework for the sector. The Government aims to boost Indian aviation by way

of enhanced regional connectivity, fiscal and monetary stimuli, deregulation free competition, to bring in greater transparency, predictability and 'ease of doing business' by way of simplified rules, e-governance; and regular interaction with industry.

The National Civil Aviation Policy 2016 proposes to make flying affordable through its Regional Connectivity Scheme (RCS), by capping the fare for one hour of flight to Rs. 2500/- on RCS routes. It also includes revival of unused/underused airports and providing viability gap funding. This step would improve connectivity to the remote areas of the country and help in the development of infrastructure and generation of jobs.

The Policy also aims to enhance ease of doing business through simplified procedures and e-governance which includes eGCA (fully automated services of DGCA), eBCAS (fully automated services of BCAS). Government is keen to develop India as an MRO hub in Asia, attracting business from foreign airlines by providing



tax concessions, simplification of procedures and other incentives through airport operators. Steps have also been taken to liberalize regime of bilateral rights leading to greater ease of doing business and wider choice to passengers.

The Government will also promote helicopter usage by various measures such as separate regulations for regulating their operations, facilitate Helicopter Emergency Medical Services (HEMS) by coordination between all stakeholders and DGCA will bring out Regulations for HEMS.

Promotion of both domestic and

international Air cargo and express delivery services is a key objective of the government, given its importance from a 'Make in India', e-Commerce and exports perspective. Steps are proposed to be taken to promote growth in air cargo by way of cost reduction, efficiency improvement and better coordination with stakeholders.

The Policy has laid down a framework which is expected to ensure growth of this sector and give the required impetus so that India achieves the vision of becoming a leader in the world of aviation.



Air India... Truly Global



Ashwani Lohani

CMD, Air India



Air India is a name synonymous with the history of civil aviation in India. When Air India came into being in 1932, it pioneered civil aviation in India and carved for itself a special place in India's civil aviation. Air India has always been associated with India – from standing by the nation during any crisis, reflecting the tradition and culture of the country or showcasing the strength of emerging India.

The national carrier has grown to become a mega international airline with connectivity across USA, Europe, Australia, Far East and South-East Asia. The international network offers several non-stop flights. Air India scripted history by introducing the first non-stop flight between Delhi and San Francisco in the US, making it one of the longest flights in the world. The Delhi-SFO route was launched last December as a tri-weekly flight but due to its high occupancy and demand, it has now been made as a 6 days a week flight to San Francisco. Air India already has nonstop flights

from Delhi to New York, Newark, Chicago and San Francisco. Also recently this flight made first ever journey around the world by taking pacific route from Delhi to SFO and Atlantic route on journey from SFO to Delhi. With this, the number of non-stop flights to the US alone has gone up to 4 daily flights – to Chicago, New York, Newark and San Francisco. Catering the strong demand from western India, Air India also commenced its service to the United States with the launch of a flight from Ahmedabad to Newark via London. As part of the expansion plans for 2017, Air India plans to add two new international destinations, Washington and Copenhagen, the capital of Denmark to its map. Air India is looking to commence direct flight operations to Washington from Delhi in July 2017. This flight will be the fifth direct connection with the US and shall be operated by Boeing 777 aircraft. Furthermore, the flight to Copenhagen, the capital of Denmark in May 2017 shall offer convenient onward

connections to Scandinavian countries-Sweden, Norway and Kingdom of Denmark, Denmark.

Air India also demonstrated its commitment to strengthening regional connectivity under its 'Connect India' program by successfully starting over 12 new connections on the domestic route. Airline will look to start over a dozen new connections this year as well in alignment with the government's ambitious Regional Connectivity Scheme named UDAN. On the domestic circuit, Air India will add new frequencies on various routes apart from starting new connections to bolster regional connectivity. A direct flight service to Port Blair will commence from Delhi in the month of May. Air India will also add second frequency on Delhi-Nagpur-Delhi, fourth frequency on Delhi-Ahmedabad-Delhi sector in March 2017 and second frequency on Delhi-Leh-Delhi sector in the month of May.

Air India is not merely an airline that transports passengers,

baggage, and cargo. It is a multi-faceted organization. The aviation infrastructure it has created over the years is a testimony of its contribution. Apart from servicing of all its aircraft in-house with its own engineering facilities, Air India also undertakes ground-handling services of many airlines in the numerous cities of India. Air India has grown to become a mega international airline with a network of 41 destinations across the USA, Europe, Australia, Far-East and South-East Asia and the Gulf. The airline's domestic network covers 69 destinations, including far-flung areas of the North-East, Ladakh, Andaman and Nicobar Islands. The airline today, flies one of the youngest, state-of-the-art, fleet of aircraft comprising a mix of the wide-body Boeing B777s, B747s, its latest acquisition- the B787 Dreamliner and the narrow body Airbus A321s, A320s and A319 aircraft.

Air India witnessed a successful commencement of four new flight operations in the year 2016 to San Francisco, Madrid, Vienna and Ahmedabad-Newark via London. Air India launched its direct non-stop flight from Delhi to Austrian capital Vienna in April, 2016 with a Boeing B787 Dreamliner aircraft. The Delhi-Vienna flight offers easy connection to over 25 destinations in Europe. The non-stop service on the Delhi-Vienna-Delhi sector operates three days a week on Wednesdays, Fridays and Sundays. Flight AI-153 leaves Delhi at 1405 hrs to arrive in Vienna at a convenient time of 1845 hrs. The return flight leaves Vienna at 2245 hrs as AI-154 and reach Delhi at 0925 hrs the next morning. This direct flight met a long-standing need of Indians

Air India joined the prestigious Star Alliance in 2014, the first for an Indian carrier, bringing a host of benefits, such as seamless transfers, combined frequent flyer loyalty points, code sharing, wider choice of flights and access to facilities at more than 1000 lounges worldwide. The alliance network currently offers over 18,500 daily flights to 1312 airports in 190 countries.

in Austria and neighboring European cities as well as of locals visiting the Indian sub-continent.

The Vienna connection, assumed significance in view of the strong relationship that India and Austria have been sharing in tourism, education, industry, culture etc. The new service caters to different segments of air travelers. The flight promises boost to tourism as well as Air India offers convenient connections from its hub in Delhi to places of interest and tourism like the Taj Mahal, the backwaters and beaches on Kerala and Goa, the majestic and memorable sights in Rajasthan, Puri in Orissa and many more such destinations. This flight has generated a lot of enthusiasm in the Indian Diaspora in Austria. Nestled along the banks of river Danube, the spectacular natural splendor sets Vienna apart.

Also, Air India recently connected Delhi with Madrid, the capital

of Spain, with a non-stop flight from December 1st, 2016. This direct flight, operating thrice a week on Tuesday, Thursday, and Sunday with a B787 Dreamliner, offers connections to a number of European destinations. Madrid is Air India's 42nd international destination and 9th European destination in 6 countries.

Currently on the Europe Network, Air India connects 9 European destinations in 7 countries which include UK-London & Birmingham; Austria- Vienna, Germany-Frankfurt; France-Paris; Italy- Rome & Milan, Spain-Madrid and Russia- Moscow.

Besides these, Air India operates non-stop flights from Delhi to Sydney, Paris, Melbourne, Milan, London, Birmingham, Hong Kong, Seoul, Tokyo, Osaka, Shanghai, Frankfurt, Paris, Singapore, Bangkok and Dubai.

Air India joined the prestigious Star Alliance in 2014, the first for an Indian carrier, bringing a host of benefits, such as seamless transfers, combined frequent flyer loyalty points, code sharing, wider choice of flights and access to facilities at more than 1000 lounges worldwide. The alliance network currently offers over 18,500 daily flights to 1312 airports in 190 countries. The wide seats, extra leg room, maximum baggage allowance, best inflight cuisine, frequent flyer program, extensive domestic and international network coupled with innovative offers and pricing make Air India one of the most trusted and dependable brands for air travelers.

Air India has some great expansion plans for 2017 and will be as aggressive in the market as the private airlines. ■■■

India's Aviation Industry: Prospects and Challenges



Dr. U. D. Choubey
Director General, SCOPE

India is one of the fastest growing aviation markets in the world. The transformation has been the most rapid since the sector's liberalization in 2003. India is the ninth largest civil aviation market in the world, with a market size of around US \$ 16 billion. It aims to become the third largest aviation market by 2020 and the largest by 2030.

The Indian Civil Aviation Sector is vital for the overall development of the Nation. Its importance is well recognized for facilitating the growth of business, trade and tourism. The air transport sector contributes around US \$ 72 billion to the GDP and provides 8 million jobs. As per available data, FDI inflows in air transport (including air freight) between April 2000 and March 2016 stood at US \$ 931.05 million.

An Overview

India has one state owned airline, Air India (with an international subsidiary, Air India Express) and private airlines groups include IndiGo, Jet Airways, SpiceJet, GoAir, Vistara and AirAsia India. In addition, Air Costa, Air Pegasus and Trujet provide the much needed regional connectivity.

The airlines projected a record collective operating profit of Rs 810 crore (US \$ 1.29 billion) in fiscal year 2016 according to Crisil Ltd. Air India reported an operating profit of Rs 105 crore for the year 2015-16 after several very difficult years. The airline carried 18 million passengers during 2015-16 registering a growth of 6.6 percent over previous year. Almost 60 percent of its revenue comes from International flights.

The Indian Aviation Industry registered a robust growth with passenger traffic during FY 2015-16 increased at a rate of 21.3 percent to 85.57 million from 70.54 million in the FY 2014-15. Indian domestic air traffic is expected to cross 100 million passengers by FY 2017, as per Centre for Asia Pacific Aviation (CAPA). Total passenger numbers handled at Indian airports were 224 million making it one of the ten largest markets globally.

According to DGCA's Civil Aviation Statistics during 2006-07 to 2015-16, domestic passenger traffic registered a compound annual growth rate (CAGR) of 10.10 percent while the international passenger traffic grew at 8.75 percent (CAGR) during the same period. Air cargo which

is one of the most critical segment of the aviation industry also witnessed a positive growth. Domestic Cargo Traffic registered a growth of 7.6 percent over the period from 2006-07 to 2015-16 while the international cargo traffic grew at 4.7 percent CAGR during the same period.

Strong GDP growth, a young population and the expansion of India's vibrant middle class is expected to see India achieve the fastest growth of its aviation market in the world over the next 20 years. Other factors which are attributed to the growth are low cost carriers allowing foreign direct investment, supportive government policies and emphasis on regional connectivity.

Challenges

Increased integration with global economy has provided ample of opportunities to the industry but at the same time, Indian Civil Aviation Industry is also plagued with several challenges. In spite of the fact that the sector is growing at a remarkable pace, less than only two percent of the population travelled by Air. The trips per capita in India is 0.04 as compared to 0.15 (China), 0.25 (Brazil) and more than 2 in US. The cost of



travelling is very expensive and should be continually brought down. Low fare would stimulate new demand and draw million of passengers away from the extensive rail network to faster and more comfortable air services.

High operating cost, congestion at airport, increased competition, lack of skilled manpower and training infrastructure, regional economical and infrastructural disparities, high fuel taxes etc. are some of the other concerns which need urgent remedial measures.

Human resource constitute the backbone of civil aviation. The growth and performance of the sector substantially depends upon availability of skilled personnel and trained manpower. Continuous training should be ensured to respond to changing environment and the technology requirements of the industry. Moreover, there has been remarkable expansion in airport infrastructure, the focus should be to develop world class aviation infrastructure with quality customer services.

In view of the global scenario, security and safety has become one

of the biggest challenge to the industry and India should enforce security regulations in terms of globally accepted standards. There is also need to deploy state-of-the-art aviation technology for enhanced efficiency and transparency. Noise reduction, fuel efficient engines, digitization for customer services and use of IT technology for maintenance operations should be the key focus areas.

Air India, the only national carrier of India needs to enhance its market share and regain its lost glory. A positive initiative has been taken by Aviation Ministry to review the performance of PSEs under its aegis on a balanced scorecard methodology. Under this, organization's performance will be monitored against strategic goals on the basis of a few listed criteria. This move will surely help improving efficiencies of PSEs.

The National Civil Aviation Policy

The Ministry of Civil Aviation of India is responsible for the formulation of national policies and programmes for development

and regulation of Civil Aviation and for devising and implementing schemes for the orderly growth and expansion of civil air transport. Its functions also extend to overseeing airport facilities, air traffic services (via Airports Authority of India) and carriage of passengers and goods by air (via the Directorate General of Civil Aviation).

Civil Aviation Ministry is actively engaged with industry and all stakeholders to understand the needs of the users and service providers and develop solutions thereof. According to IBEF, government agencies project that around 500 Brownfield and Greenfield airports would be required by 2020. Public Private Partnership models are being encouraged for construction of airports, with substantial state support in terms of financing, concessional land allotment, tax holidays and other incentives.

The new Civil Aviation Policy cleared by the Union Cabinet in June 2016 is aiming to take flying to the masses. The civil aviation ministry has announced a complex regional connectivity policy that seeks to put unconnected towns on the aviation map with the help of viability gap funding. This will be done by capping fares at about Rs 2500 for those routes and helping airlines with some funding to ply on them. The funds will be generated by charging a cess on other domestic flights. The civil aviation ministry is looking to develop some airstrips/airports as no-frill airports at an indicative cost of Rs 50-100 crore.

In the Union Budget 2016-17, the government introduced various proposals for maintenance, repair

and overhaul operations for air-planes. These include customs and excise duty exemption for tools and tool kits used in MRO works. The government has also scrapped the one year restriction for utilization of duty free parts apart from allowing import of unserviceable parts by MROs for providing exchange.

As per revised norms the foreign aircraft brought in to India for MRO work would now be permitted to stay up to six months or as extended by aviation regulator Directorate General of Civil Aviation (DGCA). Such foreign aircraft would also be henceforth permitted to carry passengers in the flights at the start and end of its period of stay in India. The new aviation policy includes proposals such as allowing new airlines to fly abroad, introduction of more regional flights and a new formula for granting bilateral flying rights.

Airports Authority of India plans to develop city side infrastructure at 13 regional airports across India, with help from private players for building of hotels, car parking and other facilities and thereby boost its non aeronautical revenues.

The Government of India has given site clearance to Delhi Mumbai Industrial Corridor and Development Corporation (DMICDC) for setting up of a Greenfield Airport for public use

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near Bhiwadi in Alwar district of Rajasthan and has granted 'in principle' approval to 13 other

Greenfield airport projects.

Road Ahead

According to IBEF, India's aviation industry is largely untapped with huge growth opportunities, considering that air transport is still expensive for majority of the country's population, of which nearly 40 percent is the upwardly mobile middle class.

CAPA has projected that capacity constraints at India's metro airports have already become visible. The situation at key metros such as Mumbai and Chennai is particularly acute as these airports are fast approaching saturation. But slot constraints and congestion are issues at most of the metro airports and are expected to remain so for the near future as new terminals and runways will take 2-3 years to develop, according to CAPA has said in its latest "India Aviation Outlook 2017-18: Surging traffic but infrastructure constraints become critical".

Indian economy is witnessing a tremendous revolution in the recent years and has become the fifth largest economy of the world. The unique initiatives like Make In India, Digital India, Skill Building relies its success on its demography and the globalized world where free market forms the crux. Civil aviation has to play a pivotal role in transcending these initiatives for the growth and competitiveness of the country. ■■■

AAI: Creating a world-class airport network in the country



Dr. Guruprasad Mohapatra, IAS
Chairman, AAI

The transport sector plays an important role in the growth and development of the country. Aviation sector enjoys a unique position, being the fastest mode of travel and having no physical barriers in terms of operations.

Air traffic over the years has seen a sustained growth in India. In terms of passenger traffic, India is currently the ninth largest aviation market in the world. It is expected that by 2020, Indian Aviation market will be third in global ranking in terms of size of the Industry, next only to USA and China.

Being part of the Aviation sector, Airports Authority of India (AAI) owns and manages more than 125 airports across the country, which include 21 International Airports, 81 Domestic Airports and 26 Civil Enclaves at Military airfields. We have been responsible for developing the nation's gateways from the inception and are committed to create a world-class airport network in the country with clear objectives of promoting air traffic, improving direct connectivity between cities for the convenience

and comfort of the travelling public, generating direct and indirect employment and thus contributing towards the overall economic development of the country.

Looking at the figures, the year 2015-16 saw a record 223.61 million passengers passing through Indian airports, registering a 17.6% growth compared to previous year. The upturn was fueled by a 21.2% rise in domestic throughput, which increased to 168.89 million passengers, and a healthy 7.7% rise in international traffic, which hit an all-time high of 54.72 million passengers. Cargo volumes were also impressive with a total of 2.7 million tons of freight passing through India's airports in FY2015-16, just over one million tons on domestic services (+6.4%) and 1.65 million (+7.5%) on international flights. The future looks bright, as our forecasts show that both domestic and international passenger numbers are expected to grow by an average of 9.2% and 7.5% per annum respectively over the next five years and exceed 471.8 million passengers and 4.6 million tons of cargo annually by 2025/26.

To meet this rapidly rising demand, AAI has drawn up an ambitious infrastructure development plan that involves a capital expenditure (CAPEX) of 17,500 crores for the next five years.

New Terminal Buildings have been planned at Agartala, Guwahati, Vijayawada, Leh, Gorakhpur, Patna, Bihta, Trichy and Imphal to directly augment passenger capacity of these airports. Prime Minister has announced a special package of Rs.2700 Crores for Bihar in 2015 for development of airports in Patna (New), Gaya, Raxaul and Purnea. Plans are there to increase the capacity of existing Terminal Buildings by expansion at Chennai, Srinagar, Pune, Lucknow, Mangalore, Dehradun and Jaipur. Work is in progress in Jammu and Kishangarh and the works are likely to be completed this year. Another 7 airport terminals are under construction at Belgaum, Hubli, Vijayawada, Tezu, Calicut, Jharsuguda, Port Blair and Gorakhpur and are likely to be commissioned in the next two years.

New Civil Enclaves are planned

at five Defence airports where civil enclave already exists viz. Agra, Allahabad, Kanpur, Bagdogra and Jammu and to provide civil air connectivity, three new civil enclave will be established at Bareilly, Adampur and Purnea.

Besides this, AAI is also looking up at various other opportunities for either Greenfield airports or expansion of existing airports across the country. AAI is constructing a Greenfield airport in Pakyong (Sikkim) which is expected to be operationalized by September, 2017. AAI is in various stages of consultation with state governments to develop new Greenfield airports at Shirdi, Deoghar and Kushinagar using the JVC model. AAI also plans building and operating another Greenfield airport at Itanagar subject to acquisition of land. Further, Govt. of India as per the laid down policy for Greenfield airports have approved about 15 Greenfield airports which may come up in near future.

Apart from the above AAI is working on revival of unserved and under-served airports to facilitate the Regional connectivity scheme launched by the Central Government. The Ministry of Civil Aviation launched the Regional Connectivity Scheme—UDAN (Ude Deshka Aam Nagrik) in October 2016. The operation of the Scheme is through a market mechanism, where operators will assess demand on routes, submit proposals for operating/providing connectivity, seek VGF, if any, while committing to certain minimum operating conditions. The Airports Authority of India (AAI) has been designated as Implementing Agency under the Scheme.



AAI visualizes many challenges to make the Scheme successful. Currently around 75 out of 450 airstrips/airports (owned by AAI, Defence, State Government, private operators and other agencies) have scheduled operations. Revival of the air strips and airports will be “demand driven”, depending on firm demand from airline operators. Unserved Airports will be operationalised at an indicative cost of Rs.50 crores to Rs. 100 crores. Further, 51 airports which are ready for operation with no expenditure or expenditure upto around Rs. 5 crore, have been identified. Other airports may be operationalized by making expenditure upto Rs.100 crore. GOI has planned to develop 50 unserved airports with expenditure of Rs.4650 crore to create infrastructure in three years. AAI is gearing up to meet these challenges for success of the Scheme.

On the ANS front, a master plan is in place to enhance capacity and safety levels in the face of higher air traffic movements in future. The ANS infrastructure is focusing on greater integration and automation with implementation

of state-of-the-art technologies. We have already commissioned state of the art Global Navigation Satellite System in form of GAGAN (GPS Aided Geo Augmented Navigation). With this India became only the fourth country in the world to commission a regional satellite based augmentation system. As per plan all new aircraft registered in India have to be GAGAN compliant from 2019. GAGAN will provide increased operational efficiency, reduced fuel burn and enhanced capacity.

Another important system, which has been installed and will be operationalized soon, is the centralized Air Traffic Flow Management with networked VHF and Radars capable of providing dynamic sectors, which permits alignment with traffic pattern and provide demand/ Capacity balancing both in air and on ground. AAI further plans to undertake installation of new radars and surveillance technologies like ADS-C, ADS-B and A-SMGCS, the latter used for the identification of aircraft on the ground at airports.

AAI is in the process to leverage its cargo business to increase

the Non-Aeronautical revenue and has chalked out a road map by identifying 24 Airports across the country for creation of Common User Domestic Air Cargo Terminals (CUDCT). The terminals will be capable of accommodating cargo from all over the country including perishable goods, medicines and other high value and express delivery shipments. To give special focus to cargo, AAI has formed a 100% owned subsidiary of AAI, AAI Cargo Logistics & Allied Services Company Ltd (AAICLAS). The subsidiary company came into existence in August, 2016 and will henceforth undertake all cargo and ground handling related activities at AAI managed airports. The Company will focus on Air Cargo handling and allied services, Warehousing and Contract logistics & Air Cargo Road feeder and Air Freight Stations. The AAICLAS formation has given an impetus to the Air Cargo Developmental activities at AAI Airports with a fresh outlook and focused attention.

AAI is further working on Green sustainable airports. Airports under construction/up gradation are planned on Green Building Codes that are more energy efficient, use natural and renewable energy to have very less carbon footprints. Solar power shall be used in a big way for all type of lighting including the interiors of airport terminal buildings. Several solar power plants have been operationalised. 6.8 MW capacity roof top solar power plants and 19.8 MW ground mounted solar power plants are in progress. There are plans for replacement of all internal and external lightings at 15 airports with LED lights in this financial year. In addition airfield

New Terminal Buildings have been planned at Agartala, Guwahati, Vijayawada, Leh, Gorakhpur, Patna, Bihta, Trichy and Imphal to directly augment passenger capacity of these airports. Prime Minister has announced a special package of Rs.2700 Crores for Bihar in 2015 for development of airports in Patna (New), Gaya, Raxaul and Purnea. Plans are there to increase the capacity of existing Terminal Buildings by expansion at Chennai, Srinagar, Pune, Lucknow, Mangalore, Dehradun and Jaipur.

lighting systems being installed are based on LED to conserve energy. The trees are being planted around the new airports to make the environment green and facilitate absorption of CO₂. AAI has adopted sustainable development through Green initiatives in ANS like establishment of Central Air Traffic Flow Management CATFM, Implementation of RNAV – ATS routes in enroute phase, Implementation of approach procedures with GNSS such as Baro- V, GAGAN based LPV procedures to provide better all-weather access to airports, thereby bringing down the

instances of diversion that lead to avoidable fuel burn.

Airports Authority of India is looking forward towards collaborative effort from all stakeholders at airports to accelerate the transition from today's operating environment to more advanced, efficient and environmental friendly concepts with an aim to reduce fuel burn and greenhouse gas emissions – reducing aviation's impact on the environment.

To conclude, Aviation as a sector is growing by leaps and bounds and AAI is at the forefront to facilitate this growth. The Government is making all efforts to provide an enabling environment with the help and cooperation of all stakeholders for sustaining growth and placing India in the ranks of global leaders in the civil aviation sector. The growth opportunities will continue to boost creation of infrastructure, thereby providing huge investment opportunities and generation of employment without compromising comfort, safety, security and affordability of air transport. The Govt. is keeping a close watch on the financial health of the industry and is framing policies conducive to the sustainability of the sector. As per rough estimates drawn by the Government, total investment of Rs. 3,77,275 crores has been estimated for airport infrastructure development work by 2031-32. This investment would result in creation of additional passenger capacity of 1086 MPPA, out of which 211 MPPA will come up in Greenfield airports alone. This additional capacity will help in catering to the forecasted passenger traffic of 1144 MPPA by 2031-32 in a seamless and safe manner. ■■■



Pawan Hans:

One of South Asia's largest helicopters CPSE of GOI maintains its growth story with renewed focus on Safety and Customer Satisfaction.



Dr. B. P. Sharma
CMD, Pawan Hans Ltd.

India's civil aviation market is among the fastest growing in the world and Ministry of Civil Aviation "New Civil Aviation Policy-2016" with focus on Regional Connectivity will provide new impetus to the aviation industry. Indian helicopter industry anticipates a faster growth in coming years after a long spell of sluggish growth. The formation of the Pawan Hans Limited in 1986 provided the first boost to the civil helicopter industry in India, which now holds and operates the largest fleet in the country with a vision "To become a market leader in Helicopters and Sea Plane services, to provide regional connectivity through small fixed Wing Aircrafts operations and provide MRO services with international standards". Presently, Helicopter usages in India are very limited in comparison to developed nations and have a huge potential. It is estimated that helicopter population in India shall grow to more than 800 helicopters by 2030 from its present strength of 280 helicopters. However, these numbers still seems woefully inadequate in country of 1.2 bn people when compared with the

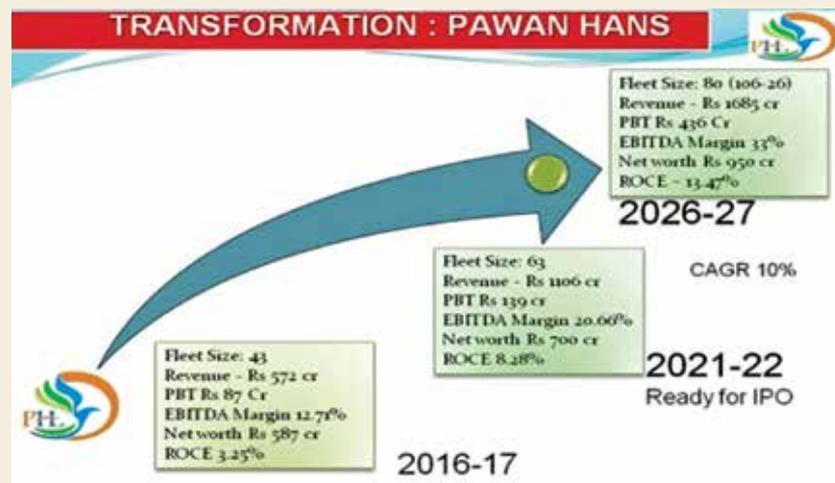
world population of about 38,000 helicopters.

An organization with commitment of service with renewed focus on safety and customers satisfaction, Pawan Hans Ltd (PHL) continues to be India's largest helicopter company and a profit making-dividend paying CPSE of government of India. The company provides helicopter services to various sectors such as E&P Offshore, Remote-Air-connectivity in North East, Andaman Nicobar, Lakshadweep islands, Heli Tourism, air-surveillance, security, emergency and disaster management services in

strategic areas besides development of helipads/heliports infrastructure to boost helicopter industry.

Transition to Transformation

In view of the emerging market and its challenges, Pawan Hans has developed a Corporate Strategic Plan: Vision-2020 to leverage the growth potential of organization business, improved productivity, skill development and Infrastructure development of Heliports under Heli-Hubs concept. In view to improve the governance and



Heliport, Rohini, Delhi.



accountability, company has re-structured its Board during 2016 to include two functional Board Directors and two Independent Directors. The general aviation and helicopter industry has huge potential in area of tourism, law & order, disaster management, emergency medical services, intra-state/inter-city/remote connectivity besides MRO business under Make in India initiatives of Government of India.

Presently, PHL has a fleet of 43 helicopters comprising SA-365N Dauphin, Dauphin AS365N3, Bell 206, Bell 407, AS 350 B3, MI-172 and 3 Dhruv helicopters for Operation and Maintenance with BSF and State Police. PHL has prepared long term Business Plan -2027 and envisage becoming a 100 Helicopter company by 2025 to achieve its targeted planned growth of 300% in its present business. Pawan Hans is diversifying its business to become the market leader and to explore the possibility of expanding its operations in the Tier-II and Tier-III cities by introducing fixed wing operation and seaplane connectivity, MRO business, under the "Make in India" initiative.

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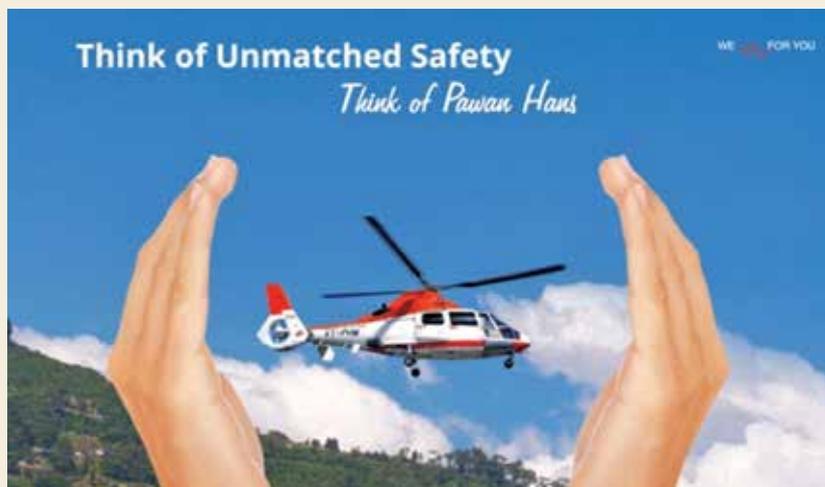
Building Infrastructure

Development and professional management of infrastructure such as helipads, heliports, city air-corridors and MRO facility are key essentials to support the growth of helicopter industry. Pawan Hans plans to establish four heliports on concept of Heli-Hubs by the year 2020 to meet the requirement of anticipated growth of helicopter industry.

Accordingly, an internal 'Action Plan' process has been initiated in line with the company's overall business plan of infrastructure development. PHL has constructed Nation's first heliport at Rohini, New Delhi on Heli-Hub concept at cost of Rs 97.27 crores to serve the requirement of northern part and proposes to develop three more heli-hubs on the similar concept of one-point solution, one each Eastern Region, Western Region and Southern Region for supporting development of sustainable growth of helicopter industry with MRO facilities and skill development at these heli-hubs.

MRO

MRO Industry is an integral part of the Civil Aviation Industry and development of this segment has multiplier effect on the economy and also will provide employment opportunities for the youth of India. With fast growing of aviation industry and improving of the economy, industry experts have forecasted substantial growth of MRO sector business. Global MRO revenue is currently around US\$61 billion and is expected to grow to US\$81 billion by 2023. Based on the actual amount spent on outsourced MRO work, India's annual MRO



segment is currently estimated to be at US\$ 700 to \$800 million (Rs. 4,200 Crores). However out of the \$ 800 million business, hardly \$ 60 million is being done in India (less than 10%), remaining is going out of the country. Pawan hans, the country's largest Helicopter carrier, also has the 'biggest' MRO set up at Juhu, Mumbai. PHL has plans to expand its maintenance and repair capacity by developing two state-of-art MRO facilities at Delhi & Mumbai. Pawan Hans has recently signed MoU with Hindustan Aeronautics Ltd. to provide its technical expertise in maintenance and repair of helicopters for Defence Sector at Rohini Heliport.

Skill Development

PHL has formulated a road map for skill development after conducting a comprehensive skill gap analysis internally to meet emergent future anticipated demand for Skilled Human Resource in Helicopter Industry particularly

Pilots, Aircraft Engineers and Technicians. Further, with the demand for skilled HR on one hand and prevailing challenges in incubating various training infrastructure on the other hand, PHL has formulated strategies for skill development that have a healthy mix of Technical, Commercial and soft skill to address skill development comprehensively across all its segments and at all levels (from high end skills to entry level skills) to ensure there is adequate availability of quality human resource across the skill pyramid. PHL has set up two National Institutes under PHL Aviation Academy one as PHTI for Training and Development of Aircraft Engineers and second as NIASS for developing pilots and Safety systems. The National Institute of Aviation Safety & Services, which not only lays the basis for aviation safety through cutting-edge flying skill training, HRD, R&D and continuing education programmes,

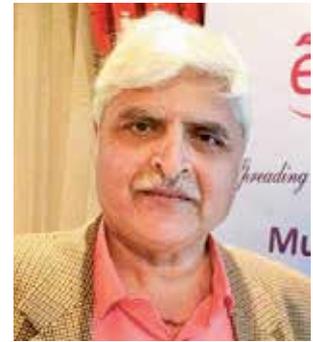
but also helps formulate new standards of safety in tune with global standards. The Pawan Hans Training Institute (PHTI) Training Institute approved by Directorate General of Civil Aviation, Govt. of India, for imparting training in the field of Aircraft Maintenance Engineering. The institute is poised to provide dual degree course in affiliation with Mumbai University from session 2017. A cadet helicopter training program is also under unveiling in association with HAL Rotary Academy.

Safety as a Culture

PHL has been providing services in some of very difficult areas of flying such as offshore, Hilly Terrains, North East states and insurgency affected areas. Service with Safety above all and Zero Tolerance to Safety are the new guiding principle of the company. In over last three decades of operation, PHL has logged more than one million flight hours and more than 25 Lakhs landings. Since then, PHL has developed and refined safety programs and practices which have given us an unprecedented safety record in the commercial helicopter industry. In recognition of our safety accomplishments, PHL has received the Helicopter Association International Operator Safety Award in 2014. PHL recognizes Safety a core value of its Flight Operations and has now tie-up with some of world best foreign safety institutions for continuous up gradations of its safety standards. ■■■

National Civil Aviation Policy 2016:

A Growth Initiative for Aviation Sector



K. Shyam Sundar
CEO, Air India Express



The Indian Civil Aviation sector has been growing at remarkable rates over the past two years. Two consecutive years of 20+ per cent growth rate has seen the domestic air traffic race from about 60.7 Million in FY 14 to about 85.2 Million in FY 16. In the current fiscal, this traffic has already gone past 67 Million in just the first eight months and well poised to cross the 100 Million mark by March 17. During this time, International traffic to and from India has also been growing albeit at a more modest rate of about 8% to reach the figure of nearly 50 Million in FY 16.

On the strength of robust demand and low fuel rates, the Indian airline industry managed to record aggregate net profit in the region of about Rs 850 Cr. in

FY 16, notwithstanding net losses reported for the year by a few of the carriers.

The year also marked the turnaround of Air India Express into a profitable airline as it turned in net profits for the very first time since its inception more than ten years ago. Air India Express is the low-cost subsidiary of Air India, and primarily engaged in operating direct international flights from tier 2 / 3 cities in India to the destinations in the Gulf. The Cochin-based Airline that had achieved operating profits in the previous two fiscals, earned net profit of Rs. 362 Cr. in FY 16, even as the parent airline, Air India recorded operating profit for the first time post the merger of the two erstwhile entities - Air India and Indian Airlines.

The growth in traffic in the Indian

air market has been so rapid over the past few years that it is globally acknowledged as the fastest growing one at this time. Many factors have contributed to the phenomenal growth experienced in the industry notably on the domestic sectors. The more significant drivers have been: high and consistent growth in GDP fuelled by favorable investment / trade policies; growing middle class and disposable incomes; increase in seat capacities and affordable fares offered on various routes triggered by low ATF prices and Government initiatives such as the visa on arrival and on-line visa facility for encouraging foreign tourist arrivals into India.

The orders that have been announced by some of the private Indian carriers, for acquiring many more aircraft, the capacity

growth planned by Air India and its subsidiaries in the short to medium term and the inexorable move towards greater liberalization of market access being witnessed in the aviation sector the world over should collectively ensure that India fulfills the potential to become the third largest air market in the world well within a decade. In fact, in the well-consulted, comprehensive and first of its kind National Civil Aviation Policy this potential has been quite succinctly illustrated by simply drawing reference to the fact that all it would take to propel the country's air-market size well past all others' save those of the US and China is for each of 350+ million Indian middle class to purchase a single one-way ticket in a whole year. The Policy document however goes on to judiciously observe that this could happen if air connectivity spreads beyond the current confines to smaller cities and towns and airfares are at affordable levels.

So how far is India really from becoming the third largest air market in the world? I dare say that we have got that much closer to that goal with the declaration of the truly remarkable and comprehensive National Civil Aviation Policy document. The much-awaited Policy document was essential for the stakeholders to draw up firm plans about future investments in the sector with a measure of confidence.

Of the many commendable initiatives incorporated in the Policy document, millions of Indians residing in tier two / three cities would perhaps most eagerly look forward to the implementation of the Policy relating to increasing regional air connectivity. A

The availability of trained manpower especially Captains in adequate numbers to be able to effectively utilize the capacity additions planned by the various carriers is also a matter of grave concern. While the measures proposed by the Government in the National Civil Aviation Policy are laudable, the pay-off cannot be expected in the short term when over 100 – 150 planes are expected to be inducted. Fuel rates have been consistently low over the past 2 years or so. It cannot be expected to remain at the same levels for long.

simple and transparent process with the proactive participation of the concerned State Government / Airport Operator would be ultimately be the key to the successful implementation of the scheme that will serve to transform local economies and open up new source markets for Airlines on their overall route networks.

The Policy also takes a fresh look at the terms of the route dispersal guidelines to bring them in line with current context / realities.

This is yet another initiative that has the potential to deliver high growth in passenger numbers as the reviewed guideline is bound to lead to greater penetration of hitherto un-served / under-served markets. Ironically enough many of the routes on which Indian carriers were shy to deploy their capacities of their own volition (and did so only in order to fulfill the route dispersal guidelines) are currently served by multiple carriers each operating multiple flights per day. Obviously, the commercial prospects of some of these routes had clearly been underestimated by the airlines. Future reviews of the route dispersal guidelines may well be expected to throw up more such city pair links that are unfancied at this time.

The Policy also proposes measures to address the need to increase the availability of trained manpower through setting up training institutions to ensure adequate skilled manpower such as trained pilots, engineers, technicians, etc. to facilitate the fleet expansion plans of the Indian carriers.

Of particular interest to AIESL, Air India's subsidiary engaged in the MRO business would be the recognition by the Government of the MRO business for the potential money-spinner that it is and the provisions incorporated in the Policy to support this business. These should add to AIESL's first mover advantage in what is estimated currently to be a Rs.10000 Crore industry excluding turnover that might accrue from servicing planes owned by other Indian carriers.

Like in any other industry, profitability in the airline industry is

determined by the extent to which the major assets are utilized. As such, so long as the marginal revenue gained from increased capacity is higher than the marginal cost of producing that capacity, airlines would aim to increase the utilization of the aircraft at their disposal, after providing for adequate ground time to do maintenance and inspections.

One of the major external constraints thwarting the goal of airlines to increase aircraft utilization has been constraints in the availability of viable slots at some of the major airports in India and within Asia. Growth in the number of aircraft movements at the Mumbai airport has been severely restricted due to slot constraints. The runway capacity at the Airport seems to be fully saturated now and the only way traffic growth could be achieved at the Airport might be through replacement of smaller sized planes with larger ones. In fact Air India has taken the lead to substitute its A 320 aircraft operations on the Mumbai – Delhi route with Jumbos (B 747 – 400 aircraft having seating capacity of 423 seats in three classes). Other airlines with wide body aircraft on their fleet may be expected to follow in Air India's path if only to protect their market shares. The slot constraint for increasing capacity out of Mumbai looks like it would be a long drawn one as the new airport planned to be developed at Navi Mumbai could take more several years. There is a similar situation brewing in some of the other major Indian airports as well, Chennai and Kolkata to

name two. There is also an acute slot constraint at the existing International at Dubai, which has in recent years become a much sought after tourist destination amongst Indians forging ahead of others within more or less the same flight range from India. Slot constraints although not quite so pronounced are also experienced at some of the major airports in the Gulf region.

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Fuel rates have been consistently low over the past 2 years or so. It cannot be expected to remain at the same levels for long. As ATF is one of the major items of direct cost incurred by the airlines, an upward increase would force airlines to increase air fares which would in turn lead to cut-backs in leisure and discretionary travels – a segment that has grown considerably in the low fares environment. This could set off a cyclical reaction on revenues, profits and ultimately the capacity addition plans of airlines. It is relevant to observe that almost all the growth in Indian domestic traffic has accrued to the low cost carriers and mainly attributable to the low fares that have been offered

in the market. The low-cost carriers account for over 70% of the domestic market bearing ample testimony to the fact that it has been low fare segment that has in fact grown.

Whenever an industry turns profitable, it is but natural that the persons employed in the industry look for improvements in their compensations. Accordingly, over the past year or so, there has already been an industry-wide increase in the salaries and allowances of the licensed categories of employees. The high probability of the shortage of licensed manpower becoming even more acute in the future with the induction of many more aircraft in the airlines' fleets is bound to increase such cost pressures.

A constant concern of the Indian carriers has been and continues to be the high cost burdens imposed on them by the airports. Airports need to recognize that a healthy airline industry is the key to their survival as well. So much has already been written about high tax structure in which the Indian carriers operate that there is hardly any need to dwell on them except to state that these would continue to pose severe challenge to the growth prospects of the industry.

It has been notoriously observed of the airline industry that it might be the fastest route a billionaire can take to become a millionaire. There have been several Indian airline failures over the past decade for anyone to view the industry's future with anything more than optimistic caution. ■■■



Small Regional Airports - The next Growth Engine



Air Marshal V. K. Verma

Director
Indira Gandhi Rashtriya Uran
Academy

Need to Develop Regional Connectivity

The 'Open Skies' policy of the Ministry of Civil Aviation (MoCA) and the introduction of Low Cost Carriers in the middle of the last decade, injected unprecedented vitality into the Indian civil aviation industry to such a degree that passenger traffic climbed at a pace such that it outstripped the growth rate in capacity development. This also led to the phenomenal rise of optimism and coupled with the entry of private players in airport development who are credited with the building of modern international and domestic airports in the country, the civil aviation industry appeared to be in the vanguard as an agent of change and a growth engine of the national economy. However, for various reasons, the impressive pace of growth remained limited to a few select metros. As reality sank in, the complex financial web of the civil aviation industry began to retard the growth momentum. Soon it dawned on all the stakeholders that the aviation sector only mirrors the industrial

growth patterns. Historically, the large cities also referred to as Tier I and Tier II cities, have led in growth and then plateau out in due course. The focus then shifts to middle tier cities and finally to regions in the interior and to remote areas. These are referred to as Tier III and Tier IV cities or towns. The civil aviation industry in India is now poised for a breakthrough into the second phase where it must develop airports in the middle tier cities and remote locations substantially expand regional connectivity.

Lessons from Large Airports

It would be a gross mistake to adopt the model used for airports in the Tier I and Tier II cities. The model for middle tier airports must be focused on functionality and minimum cost. As the volume of passenger traffic and air cargo at middle tier airports would be much lower than at the large cities, these airports must reflect the "hatchback philosophy of the auto industry" which is to have the right fit for all the concerns. Middle tier airports would

need to be operative just for a few hours every day, can manage with smaller runway length adequate for smaller sized regional and commuter aircraft. The middle tier airports can be manned by a handful of specialists and yet provide professional service. In this day and age of perpetual terrorist threat, adequate security would also be an inescapable requirement.

Facilities and Operations at Smaller Airports

The smaller regional airports would be required to support operations only by day with a maximum of ten arrivals and departures per day involving about 100 passengers. This can be managed with a maximum of an eight-hour single-shift watch. Such airports can make do with a single runway of about 4000 to 6000 ft but will need a proper security fencing all around. It would have an Air Traffic Control (ATC) with basic radio communication and fire fighting facilities. As only day time operations are envisaged at these airports, sophisticated navigational aids or permanently

installed night landing facilities are not regarded as essential. The airport would have the facilities to operate in a networked environment and the security arrangements would have to be technology reliant with support of CCTV cameras, vehicles, weapons and well trained personnel. To keep the management slim, airfield maintenance as well as the fuel farms would be outsourced.

Support from the Indian Air Force (IAF)

The IAF traditionally depended on the Indian Army for the security of its operational airbases. Even though IAF airfields are generally located at some distance from the borders, the growing threat of terrorist attacks made it necessary for the IAF to rethink its strategy of securing its airfields. Thus was born the concept of "Akash Yodha" or "Air Warrior". In this concept every individual donning the IAF uniform is taught handling of weapons, operating communication equipment, field craft, armed and unarmed combat, first aid and all issues related to airfield security. Thus, the Air Warrior in fact possesses multiple skills. Apart from his basic expertise which the Air Warrior employs on a daily basis, be it as an aircraft technician, an automobile mechanic, an engineer, a vehicle driver, a pilot, an ATC controller, a radio operator, a clerk or a cook, he also is a trained combatant capable of defending an airfield against terrorists or other inimical elements that pose a threat to its security. Thus an Air Warrior, technical or otherwise, after retirement from the IAF, not only provides professional expertise, he is also well versed in aviation activities,

It would be a gross mistake to adopt the model used for airports in the Tier I and Tier II cities. The model for middle tier airports must be focused on functionality and minimum cost. As the volume of passenger traffic and air cargo at middle tier airports would be much lower than at the large cities, these airports must reflect the "hatchback philosophy of the auto industry" which is to have the right fit for all the concerns.

aircraft operating environment and airfield security.

Recall the scenario at the Chhatrapati Shivaji Terminus (CST), Mumbai on November 26, 2008 wherein terrorist Kasab single handedly held at gun point a large number of railway employees as well as passengers waiting to board trains. If there had been ex-Air Warriors employed with the railways deployed at CST, the scenario would have been entirely different. The Air Warriors

who would have access to weapons stored at different locations in the CST, would have responded instantly and aggressively to neutralize the terrorist instead of waiting for the arrival of security forces from outside. Thus the ex-Air Warriors would have helped save lives instead of helplessly falling victim to a just a single terrorist.

A word in clarification here – the Air Warriors essentially are professionals with the added ability of armed combat – not to be mistaken for commandoes whose sole expertise is armed/unarmed combat. The level of expertise in combat of an Air Warrior is obviously lower than that of a commando – yet way above a non-combatant civilian employee at an airport. The Air Warrior is weapon-friendly, willing to take risks and capable of offering stout defence against an attack. In today's terrorist-infested world, these qualities ought to make an Air Warrior the obvious choice for the sake of airport security.

HR Model for Small Airports

Personnel serving in the IAF retire from the service at an early age varying from 35 to 50 years and are available for a second career. A suggested model for manning by ex-Air Warriors, a small airport with limited operations is given below.

- **Airport Director:** This incumbent could be from the Flying Branch, Administration ATC or Fighter Controller.
- **Air Traffic Controllers - Two:** These must be from the Administration ATC Branch
- **Air Field Safety Operators**

(AFSO) – Two.

- **Radio Technicians – Two:** To handle communications.
- **Fire Fighting Crew – Six:** These would include drivers.
- **Security & Baggage Handling – Six:** From amongst ex-IAF Police or clerical cadre.
- **Administration/Accounts staff – One.**

The 20 personnel listed above would not only execute all necessary functions of airport management but also provide the appropriate security environment. Not all of them however need to be ex-IAF.

Implementation of the Concept

The suggested manning and operational model could be tested

at any airport owned privately, by the state government or the Airports Authority of India (AAI). The resultant professional output and low costs obtained would convince the operator and the regulator of its workability. Civil Aviation Regulations promulgated by the Directorate General of Civil Aviation (DGCA) on the subject of security would however, need to be suitably modified. The best way forward is for the AAI, the state governments and the IAF to work jointly on this manning concept as it would be a win-win situation for all. Private Sector operators such as Reliance who have built Greenfield airports could also source the required personnel from the IAF and adopt this model.

Conclusion

In the modern day era, the threat from terrorism requires that airports ensure complete and fool-proof security of the establishment and more importantly for the transiting passengers, crew and cargo.

The method adopted to achieve this at the large and metro airports is far too expensive to be replicated at smaller airports. Hatchback philosophy of the auto industry must be the model for scaling the size and operations. A solution with the minimum level of manning lies in hiring ex-IAF personnel for these airports as they would provide a combination of professional expertise and security. This would pave the way for small regional airports to become the next growth engine.





INDIRA GANDHI RASHTRIYA URAN AKADEMI (IGRUA)
UNDER MINISTRY OF CIVIL AVIATION (GOVERNMENT OF INDIA)





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Indian Aviation Sector – Headed for glory but roadblocks remain



Amber Dubey*

The fastest growing aviation market

India is the 9th largest civil aviation market in the world and the fastest growing. The key drivers of the high growth being witnessed are low global oil prices, growing economy, increase in personal disposable incomes, increased propensity to travel and a strong policy support by the government.

The growth is manifesting itself in modern airports, rise of low-cost carriers (LCC), growing emphasis on regional connectivity, increased use of Information and Communication Technologies (ICT) and increased foreign investments in airports, airlines and other allied sub-sectors.

With growth comes challenges – of congestion, equitable growth, skill shortages, safety and security. How Indian aviation addresses these challenges will decide whether India will hit the big league or not.

Airport infrastructure needs massive uplift

India has over 400 airports and airstrips in various states of use. 125 airports are under the jurisdiction of Airports Authority of India (AAI). In its effort to modernise and increase operational efficiency, the Government of India adopted a Public Private Partnership (PPP) model for international airports in New Delhi, Mumbai, Hyderabad, Bangalore, Nagpur and Cochin.

As part of the 12th Five Year Plan, MoCA plans to invest more than USD 10 billion to improve its aviation infrastructure, namely the airports. This amount may be inadequate given the unprecedented growth being witnessed in India. It pales in comparison to the USD 130 billion earmarked by the Chinese government and USD 46 billion by the UAE government for their aviation infrastructure.

Several greenfield airports are

currently in different stages of bidding and construction. The most anticipated amongst them being is the Navi Mumbai International Airport (NMIA). With traffic at the space-challenged Mumbai airport getting congested, NMIA is expected to provide much needed relief and growth opportunities.

The first purely commercial airport of Goa is being planned at Mopa. The current one at Dabolim is a naval one and hence constrained in terms of time and space. The Mopa bid has been won by GMR Group. Construction of the new international terminal at Cochin airport has been completed and is expected to be operationalised by mid-2017. New airports at Kannur (Kerala) and Bhogapuram (Andhra Pradesh) are under various stages of development. KPMG is the transaction adviser to the respective state governments for Navi Mumbai, Mopa and Bhogapuram airports.

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Regulatory challenges in airport tariffs has hurt investor sentiment and have prevented large investors both global and Indian from investing in Indian airports. National Civil Aviation Policy (NCAP) 2016 has made a significant change by stating 30% hybrid-till as the approach to be used for tariff fixation. The government has allowed 100% FDI in brownfield airports under the automatic route.

Indian carriers are becoming healthier

In the last 13 years, India has witnessed significant growth in the number of national and regional scheduled air operators from three in 2003 - Air India, Jet Airways and Sahara Airlines to seven for national coverage - Air India, Jet Airways, Vistara, IndiGo, SpiceJet, GoAir and Air Asia India and three with regional coverage in 2016 - Air Costa, Air Carnival and Trujet. It has also seen the painful demise of several airlines. Competition is now heating up and passengers are spoilt for choice.

As part of the NCAP, the controversial, anti-competition '5/20 rule' was replaced by 0/20 rule which means that all domestic carriers can start flying on international routes if they deploy 20 aircrafts or 20 percent of the total capacity in domestic operations. This change in policy has opened up the global routes for new players wherein the share of Indian carriers is a low 30%. However, 0/20 rule in reality 3/20, as it takes around 3 years for a new airline to create a fleet of 20 aircraft.

Some other important developments in 2016 in the airline sector are as follows:

In the last 13 years, India has witnessed significant growth in the number of national and regional scheduled air operators from three in 2003 - Air India, Jet Airways and Sahara Airlines to seven for national coverage - Air India, Jet Airways, Vistara, IndiGo, SpiceJet, GoAir and Air Asia India and three with regional coverage in 2016 - Air Costa, Air Carnival and Trujet. It has also seen the painful demise of several airlines. Competition is now heating up and passengers are spoilt for choice.

- **Stock-market listing of Indigo Airlines:** Listing of Indigo highlights the strength of Indigo's growth plans, operational efficiency and improving market sentiments.

- **Turnaround by SpiceJet:** The biggest reason behind SpiceJet's revival is the hands-on approach and commitment of the new investors. The investors brought in confidence to passengers, employees, lenders and suppliers. The government also played a

supportive role in the turnaround.

- **Profitability of Jet Airways:** The return of Jet Airways into profitability in 2015/16 after four consecutive years of registering losses is a positive development. The carrier introduced a series of cost-cutting measures in addition to higher utilization of its aircraft, better network planning and renegotiations of old contracts.

- **Air India making Operating Profits:** Flying high on the back of low fuel prices and other operational improvements, Air India has made an operating profit of INR 105 cr. in fiscal 2016.

Regional Connectivity Scheme – A game changer?

India's Regional Connectivity Scheme (RCS) in civil aviation provides a unique opportunity to take flying to the masses by way of fiscal incentives, infrastructure support and monetary subsidies.

The target airports for RCS include 398 unserved and 16 underserved airports. The scheme is market driven as in, the onus is on air operators to approach the government with their fleet and network plan and the government will play the role of a facilitator. The airfare for 500 km distance has been capped at Rs 2500 and the Viability Gap Funding (VGF) per seat for different stage lengths have been fixed. The subsidy will be for half the seats in an RCS flight and the remaining are free to be sold at market prices.

The FICCI-KPMG Report on RCS has identified 44 high potential RCS airports from among 400 plus airfields available in India. This is based on various geographical and techno-commercial parameters. The report has also identified over 370 possible



destinations from the shortlisted RCS airports; the projected financial statements for four aircraft types and suggestions for further improvement of the scheme. The report, released by the union aviation minister Mr. Gajapathi Raju can serve as a useful reference material to prospective RCS operators.

Digital aviation is the way forward

Digital technologies play a pivotal role in the realisation of the policy objectives announced by Government of India as a part of NCAP 2016. The Digital India initiative of the government is a great enabler. It is centred on three key areas – digital infrastructure as a utility to every citizen; governance and services on demand and digital empowerment of citizens.

Mobile telephony has become an integral part of people's lifestyle in India. The aviation sector can leverage digital technologies to understand the needs of individual passengers and provide personalised on-demand services. Passengers can also access date and register their feedback on

MoCA's 'Air Sewa' app.

The explosion in online apps has permitted a shift from paper to online search engines, journey planning, ticketing, meal orders and check-in etc. Disruptive digital travel agent apps marketed by 'managed service providers' (MSP) could present travellers with a range of alternative journey plans, calculating and aggregating total time and costs; then purchasing all the elements of a chosen route and uploading the same to the passenger's smartphone.

Making product selection and payment easier can enhance retail sales at airports to a time-challenged passenger. Higher non-aeronautical revenues to the airport operator help bring down aeronautical charges as per the current tariff system.

An interesting development over the past few years has been the positive response by regulatory authorities towards digi-tech. Aadhaar based biometric scanning and matching with the airline passenger data, can allow seamless movement of passengers from airport entry gate to the aircraft entry gate. This

is in fact far more secure than the non-biometric identity cards that we currently use at the airports.

Air navigation is likely to switch from land-based equipment to a satellite-based system called GPS-Aided GEO Augmented Navigation (GAGAN) which is far more robust, secure and efficient. GAGAN will help handle far more air traffic and help reduce fuel cost by direct routing and smooth descent of aircraft than the current land-based systems.

The time to change is NOW

The Indian civil aviation industry is well set on its target of becoming the third largest aviation market by 2020 and the largest by 2030. However, massive improvements are required in airports, airlines, air-navigation, cargo, MRO, ground handling, safety, security, skill-building and use of technology. The Indian aviation sector has to become welcoming enough for the best of global players to come, compete and enrich the market here. We do not have the luxury of time.

With NCAP 2016, the government has given the right policy push. The Regional Connectivity Scheme will help take global travellers to the untapped natural, historical and cultural wonders that lie hidden in India; and bring in more traffic from India's interiors into the national air grid. The government, industry and civil society now need to engage closely to address the various aviation opportunities and challenges. With the right policies and continuous focus on cost, quality and passenger convenience, India is well placed to become a top aviation hub in the next ten years. ■■■

Civil Aviation in India: Poised for Take-off



Dhiraj Mathur

Partner
Regulatory Services & Leader
PwC India

The aviation market in India is among the fastest growing in the world driven primarily by the sustained growth of the Indian economy and dip in the price of ATF in the last year. The CAGR of the domestic passengers carried between 2006-07 and 2015-16 has been 10.17%. Key drivers of growth of Indian aviation market are rising GDP, expanding middle-income group, favourable demographic structure, rising urban population, shift in market towards Low Cost Carriers (LCCs), investments in airport and related infrastructure, growing tourism, global integration of businesses and global shift of traffic Asia-Pacific Region.

The Civil Aviation sector in India is poised to be a key driver of economic growth of the country. It is already the fastest growing domestic aviation market in the world and will grow at a faster pace once the new National Civil Aviation Policy (NCAP), Scheduled Commuter Airlines (SCA), Regional Connectivity Scheme (RCS), proposed aviation infrastructure development measures along with liberalisation of FDI norms begin to play out.

The decision to allow FDI up to 100% in Scheduled Air Transport Service/ Domestic Scheduled Passenger Airline and regional Air Transport Service (under approval route for investments more than 49%) will attract much needed funds to this capital intensive sector which has long gestation period. This change has levelled the playing field for existing and new airline hence, only non-strategic or financial investors would be able to hold up to 100% FDI in Air Transport Services.

The so-called 5/20 rule had created an artificial grouping of airlines which was an outcome of knee-jerk policy-making and its recent amendment has now significantly lowered entry barriers. This amendment, coupled with the other changes, is expected to transform the face of the aviation sector. The amendment would attract new entrants, lead to new route development and increase competition in the aviation sector. Retaining the requirement of 20 aircraft is reasonable because first the entire 5/20 issue was holding up the release of the new policy and secondly the international operations can now

be started with one or two aircraft. The NCAP has introduced a new category of airlines called SCA for whom there have been relaxations in the paid-up capital, number of aircraft and exemption from Route Dispersal Guidelines (RDG) have been provided so that they can operate minimum number of movements per week to RCS destinations and have aircraft with less than 100 seats. The RCS also aims to improve connectivity by providing fiscal incentives and infrastructure development. These innovations in policy are likely to create two new categories of airlines: the SCAs and airlines that operate largely on RCS routes. These airlines would be distinct from and in addition to the existing Full Service Carriers (FSC) and LCCs.

The Indian aviation market is extremely price sensitive and the key to success for any airline is to be able to provide quality service at appropriate price points. It can be argued that FSCs and LCCs could also enter the SCA and RCS segments. However, it must be noted that there are great operational differences between the FSCs and LCCs



on the one hand and SCAs and RCS operations on the other like:-

- The size of aircraft where FSCs and LCCs have narrow bodied single aisle aircraft with seat capacities between 144 and 190, SCAs have been restricted by guidelines to 100 seats.
- Availability of pilots with required type rating and availability of training facilities, the existing training facilities in the country are largely focused on wide/narrow bodied aircrafts operated by FSCs and LCCs.
- The infrastructure and ATF related costs will be controlled through provisions of RCS for SCAs whereas the operating costs will have to be kept in check by airlines which implies that the business model for operating the airlines would have to be different.

The success of these initiatives would depend on a number of factors, the most important one is that governments must sign up to the RCS and then honor their financial commitments on time. The rules regarding implementation of RCS and VGF should be kept simple and transparent and

the governments should resist the temptation of increasing taxation on ATF. Availability and financing of smaller planes will be an issue as well as the training infrastructure for pilots. This is where

The Indian aviation market is extremely price sensitive and the key to success for any airline is to be able to provide quality service at appropriate price points. It can be argued that FSCs and LCCs could also enter the SCA and RCS segments. However, it must be noted that there are great operational differences between the FSCs and LCCs on the one hand and SCAs and RCS operations on the other like:-

the government could explore supportive/facilitative intervention on behalf of players.

With the favorable demographic profile of the country, government easing out its regulatory policies and the aerospace industry expressing their enthusiasm for “Make in India” the potential expansion in this sector offers bright employment prospects. Looking forward, the aerospace and aviation sector will require a decisive and coordinated effort to strengthen whilst expanding the supply of skilled/experienced workers as well as professionals. This growth will be influenced by a number of factors including investment in product development, tools, capital equipment, infrastructure and human capital.

Indian aviation infrastructure will need to keep pace with growth of the industry. Flexibility has to be a key priority where clearing rules and handling procedures are made more customer-friendly for better transportation and logistics supports. Some aspects that need to be still addressed are taxes on fuel prices which are among the highest in the world and we are still losing 90% of domestic MRO business to our regional neighbours. The congestion problem at major airports is affecting on-time performance of many carriers where terminal capacities have not kept pace with the increase in aircraft movements. We need a synergistic effort to support the evolving trend of the Indian civil aviation sector. Dynamics of the industry today suggest evolution of a demand-led development of the sector which would enable an improved economic environment, increased regional business potential and growth in tourism.



Indian Civil Aviation Sector – New Initiatives & Issues



Dr. R. K. Tyagi

Former Chairman, HAL, PHLH

India today is 9th country in the world in terms of domestic and international passenger traffic. We are one of the fastest growing aviation market with 85 million domestic passengers handled in the year 2015-16 increasing to 100 million plus in the year 2016-17. Civil aviation in India today is a 16 Billion USD industry with 5600 plus air craft movements per day. The passenger growth in last five years on CAGR basis is 7.6% for international traffic and 9.9% for domestic sector (overall 9.3% growth). Three enabling factor for the growth are – First, ideal geographical location between eastern and western hemisphere, second – strong middle class of about 30 crore Indians and third – a rapidly growing economy at the rate of 7% plus of GDP.

The year 2016 will be remembered as a golden year in the history of Indian aviation. For the first time in Independent India, National civil aviation policy- (NCAP-2016) was announced by the Ministry of Civil Aviation laying the foundation for future growth of Aviation in India. This was followed by Regional connectivity

scheme (RCS) wherein unserved/ under served airstrips were identified for connectivity and concepts like Airfare cap and Viability Gap Funding (VGF) have been introduced.

NCAP-2016 aims to create an eco – system to make flying affordable for the masses and to enable 30 crore domestic ticketing by 2022 and 50 crore by 2027 (from 7 crore at present). Similarly the cargo volumes should increase to 10 million tons by the year 2027. The mission is to provide safe, secure, affordable and sustainable air travel for passengers and air transportation of cargo with access to various parts of India and the World. Some of prime objectives envisaged in NCAP-16 are to establish an integrated eco-system which will lead to significant growth of civil aviation sector, ensure safety and security of travellers and promote the entire aviation sector chain in a harmonized manner covering cargo, MRO, general aviation, aerospace manufacturing and skill development.

Regional connectivity scheme (RCS) announced in October 2016, has identifies 394 unserved/

underserved airstrips which have potential to be connected. The scheme assumes significance in view that at present more than 60% of domestic traffic is handled just by 6 metro airports and a vast majority of Indian population still needs to be connected for tourism, trade and traffic.

RCS provides for Airfare cap per RCS seat for various bands of distance. For example, Rs 1,420 have been fixed for a stage length of 150- 176 kms and Rs 2,170 for a stage length for 376-400 kms. For Helicopter flying, an airfare cap of Rs 2500 for up to half an hour flight and of Rs 5000 for a flight duration beyond 60 minutes has been fixed. The concept of airfare Capping depending on distance/ time of flight has been widely appreciated by the industry as it will open up new vistas of economic growth and prosperity for far flung and remote areas.

Growth of Aircrafts in India

There are more than 430 aircrafts presently in active use by domestic airlines in India. Keeping in view the future traffic growth, it is expected that over next 20

years, 1610 new aircrafts (1230 single-aisle and 380 wide bodied) will be inducted in Indian skies, with an overall acquisition cost of approx. \$ 224 B plus. In addition to this, there is a need to introduce smaller aircraft (20 seats or less) for meeting the need of Regional connectivity plans.

In last ten years, Aerospace industry in India has grown significantly in technology and business strength. Atleast 100 Indian companies are now part of global supply chain of Aerospace and Defence companies world over. Various small aircrafts like CNM-5, Dornier and SARAS are now in the indigenous development cycle. However, among the BRICS countries, India is the only country which does not have its own Regional Aircraft. Preliminary studies submitted by NAL-HAL show that with a budget allocation of \$ 2 B, a regional aircraft can be developed in a period of 5-7 years thus putting India in the elite league of aircraft manufacturing countries.

Airport Infrastructure

At present, 75 plus airports across the country receive commercial

flights. For regional connectivity to succeed, additional 75-100 airports need to be developed in first phase at an investment of approx. Rs 6,000 cr. In order to match with rising expectation of travellers at Airport handling, huge investments to the tune of Rs 10,000 or plus will also be needed for technology upgrade of the existing airports. Airports need to achieve higher efficiencies as they embrace the digital revolution, rethinking what customers value the most and creating the operating models that leverage the new technologies. Near field communication and digital luggage tags along with smart security using body scanners and biometric checkpoints also need to be introduced at Indian airports.

Helicopters & Seaplanes

Historically helicopters in India have played a crucial role in remote connectivity in North east, Andaman Nicobar and Lakshadweep islands. Use of Helicopters has led to a paradigm shift in travelling habits to shrines like Vaishnodevi ji, Kedarnath ji and Amarnath ji etc.

In India, Helicopters can play

a key role in remote area connectivity, intra-city movements, tourism, law enforcement, disaster relief, search and rescue and emergency medical evacuation. India currently has approx. 270 helicopters which is less than 1 % of world helicopter strength.

World over more than 10,000 helicopters are used for emergency medical services and law & order maintenance. However, in India, these applications still need to be developed in a state sponsored & supported program. There is a need to create separate helicopter corridors and a specific Helicopter cell at DGCA.

India has a vast coast line of 7000 km plus and therefore, Seaplanes have a great potential for growth of tourism, regional connectivity and coastal surveillance along the coast line. At present only one seaplane is in use in the entire country and there is a need to develop plans to introduce at least 100 seaplanes in India. For this, a project under 'Make in India' can also be developed. Seaplanes are also considered more suitable and cheaper options for remote area/island connectivity as their per hour flying cost is one third



of the flying cost of helicopters.

Maintenance, Repair and Overhaul (MRO)

At present annual MRO spend of Indian carriers is around 5000 crore and likely to cross Rs 10,000 crore/year in next 5 years. 90 % of MRO allocation is currently spent outside India in countries like Srilanka, Singapore, Malaysia & UAE etc. By a rough estimate MRO costs in India are 30-38% higher than neighbouring countries due to higher custom/excise, VAT and Airport taxes/charges. Given our technology and skill base, India has a potential to develop as a major MRO hub in Asia provided the duty/taxation structure is suitably rationalised by the government.

Aviation Safety

For a steady & confident growth of civil aviation in India it is necessary that regulatory bodies are autonomous and safety oversight system is strong. In India, Directorate General of Civil Aviation (DGCA) is assigned to this responsibility. DGCA has taken several good initiatives like creation of single window system for all aviation related transactions, queries and complaints. An automation project – eGCA has also been introduced.

Historically the twin role of DGCA as regulator and also as implementer has been considered as a role conflict situation. There is a need to create a fully autonomous institution like Civil Aviation Authority (CAA) on lines of FAA of USA. The state safety program (SSP) also needs to be fully implemented at highest priority. Suitable manpower also needs to be inducted in Aircraft Accident and Investigation



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Bureau (AAIIB) for speedy and professional investigations.

To Sum Up

Growth of aviation sector has

a multiplier effect on the economy of a country. As per ICAO (International civil aviation organisation), the output multiplier and employment multiplier for investments in Civil Aviation are at 3.25 and 6.10 respectively. During the last year, India welcomed 7.7 Million tourists, against 11.8 M by Malaysia and 55.6 M by China. With the vast cultural heritage and good in-land air connectivity, there is an upward potential for tourist influx to India. As per Ministry studies an increase by 10 million tourists in India can lead to additional GDP growth of 0.5 percent.

The growth of aviation sector in India is inevitable. However, the speed and spread will depend on how the government is able to provide an eco-system for the harmonized growth of various aviation sub sectors like: Airlines, Airports, cargo, Maintenance and repair organizations, general aviation, Aerospace Manufacturing and skill development in related areas. Recognition of civil aviation sector as infrastructure sector along with adequate investment enabling, may further accelerate the growth. ■■■

Impact of National Civil Aviation Policy 2016-

Flying to tier-II cities to get affordable, subject to implementation hurdles; New airlines to gain a space in international skies faster



Kinjal Shah

Assistant Vice President
ICRA Limited

The Ministry of Civil Aviation (MoCA) released the National Civil Aviation Policy (NCAP) on June 15, 2016, after incorporating feedback from the various stakeholders on the draft policy which was released on October 30, 2015. The NCAP is aimed at providing a favourable eco-system and a level playing field to various stakeholders like airlines, airports, cargo, maintenance repairs and overhaul (MRO) services, and to make flying affordable for the masses.

Some of the key areas discussed under the NCAP are as below:

Regional Connectivity

As per the Regional Connectivity Scheme (RCS) – UDAN – released by the MoCA on October 21, 2016 to be implemented from January 2017 - the airfares on the RCS routes would be capped from Rs. 1,420 to Rs. 3,500 for various stage lengths ranging from 151 km to 800 km, respectively. The participating airlines would benefit from support in the form of viability gap funding (VGF) from the Central and State Governments, as well as lower taxes, levies and

airport charges; however, the restriction on maximum number of seats per flight under the RCS truncates the available benefits. ICRA believes that considering a maximum cap of 40 RCS seats in an RCS flight, ideal aircraft capacity would be 80 seats. Aircraft with higher capacity would have to operate more non-RCS seats which would not be eligible for VGF, which may necessitate use of smaller aircraft, restricting some operational and financial flexibility. Though the proposed financial support in the form of VGF would be a key aspect of the RCS, uncertainty on VGF tenure and cap on VGF might prove to be deterrents for participation of airlines. Nevertheless, indexation of VGF to ATF prices and USD-INR exchange rate would provide partial de-risking for the participating airlines from these two key cost elements. Since the RCS relies heavily on regulatory support from the central and state governments, the participating state governments need to extend financial and operational support. Hence, financially weaker states might opt out

of the scheme. Further, the state governments would also need clarity on the long term benefits before committing immediate support.

The scheme provides a good opportunity for regional airlines to stabilise their troubled operations. These airlines are currently operating on regional routes, which are less lucrative than the tier-I routes, without any fiscal support and they can benefit from the scheme. However, broad based participation of key stakeholders like airlines and state governments would be critical for success of the scheme. Clarity on some of the areas of the scheme including – likelihood of extension of tenure for VGF, possible lack of exclusivity on certain lucrative RCS routes and its commercial implications on airlines, financial viability of other stakeholders like RCS airports and airport operators, possible operational challenges at existing airports in order to serve RCS flights – would be required for broad-based participation of stakeholders and consequent success of the scheme.

Scheduled Commuter Airlines

The NCAP has proposed a new category of airlines which are essentially lower capacity carriers connecting remote locations. The airlines are expected to be low cost carriers given that they would benefit from relaxed guidelines, fiscal support and probable subsidy support; thus benefitting the regional passengers.

Rule for international flying

The NCAP has modified the 5/20 rule (which required domestic airlines to complete five years of domestic flying and have a fleet of 20 aircraft before they can operate on international routes) with a new one i.e. 0/20. As per the new rule, all airlines can commence international operations provided that they deploy 20 aircraft or 20% of total capacity, whichever is higher, for domestic operations. This would allow new airlines to commence international operations earlier than five years, provided they can ramp up the fleet rapidly. In ICRA's view, ramping up the necessary capacity would take at least two to three years.

Route Dispersal Guidelines (RDG)

Taking a note of increased traffic on major routes, the NCAP suggests addition of more routes in Cat-I from the earlier 12 pre-defined routes to addition of new routes having flying distance of 700 kms or more, average seat factor of 70% and annual traffic of 5 lakh passengers. This would adversely impact airlines' performance as there would be proportionately increased requirements for flying on less profitable Cat-II (10% of Cat-I

The Ministry of Civil Aviation (MoCA) released the National Civil Aviation Policy (NCAP) on June 15, 2016, after incorporating feedback from the various stakeholders on the draft policy which was released on October 30, 2015. The NCAP is aimed at providing a favourable eco-system and a level playing field to various stakeholders like airlines, airports, cargo, maintenance repairs and overhaul (MRO) services, and to make flying affordable for the masses.

routes) and Cat-IIA (1% of Cat-I routes) routes. However, reduced requirement for Cat-III routes (35% of Cat-I routes as against 50% earlier) will be beneficial for the airlines as they can discontinue operations on some of the loss-making routes in Cat-III (provided the reduction in percentage requirement is irrespective of the airline's participation in RCS). Overall, these proposed changes in RDG would be marginally negative for the airlines – with capacity deployment on loss-making/ less profitable Cat-II and IIA routes increasing from current 6.8% to 7.5%.

Airports

The MoCA has articulated the need to reduce airport charges in order to make aviation industry viable. Further, the hybrid-till model of tariff determination for new airports will help balance the interests of airport operators as well as passengers. However, there is lack of clarity on whether the hybrid-till model, coupled with lower airport charges would make the airport operations viable, or whether the same would be subsidised by the State/ Central Governments. This would be a key determinant for the entry of the private players.

Maintenance, repair and overhaul

With a view to develop India as an MRO hub in Asia, attracting business from foreign airlines, the MoCA has proposed elimination of various taxes and duties (including among others, VAT, customs duty, airport royalties, additional charges on MROs) and simplification of approval process. Consequent growth in the domestic MRO industry will have the dual effect of augmentation of revenues of airport operators as well as reduction in costs for the airlines.

Code share agreements

Some of the key highlights under this include – Liberty to Indian carriers to enter into code share agreements with foreign carriers for any destination within India available under air service agreements (ASA); complete liberalisation of international code-share between Indian and foreign carriers subject to ASA; and no prior approval requirement from MoCA – Indian carriers just need

to inform MoCA 30 days prior to starting the codeshare flights. This will help airlines expand their offerings in terms of number of destinations, and in some cases, the flight timings that they can offer potential customers, without having to operate their own aircraft.

Ground handling

All major airports would have at least three ground handling agencies (GHAs), including Air India's subsidiary/ JV at an airport to ensure fair competition. However, while the airlines will benefit from increased competition, it will have a negative impact

on the revenues of GHAs as also the airport operators. Further, with no rationalisation of royalties and other charges levied on GHAs, the profitability of GHAs will be impacted.

To sum up, the key takeaways from the NCAP for the key stakeholders are as below:

Airlines		Passengers	
Positives		Positives	
•	Easier international flying norms for new airlines	•	Strong regional connectivity at affordable prices – target fare of Rs. 2500 for one hour flight
•	Fiscal support for flying on regional routes	•	Improved options for international flying
•	Better infrastructure	•	Higher safety standards
•	Lower airport and other related charges		
Negatives		Negatives	
•	Increased competition for international routes	•	Levy on Cat-I and Cat-III routes to increase fares; however, would not materially impact demand
•	Changes in RDG – marginally higher capacity requirement on Cat II/ IIA routes		
Airports		Support Services	
Positives		Positives	
•	Regulatory clarity with hybrid-till to be adopted uniformly for tariff	•	Policy level support and ease of doing business for MROs
•	Fiscal support for strategic airports	•	Improved ground handling services
•	Regional connectivity to boost performance of more number of airports	•	Policy level support for cargo operations
Negatives		Negatives	
•	Viability of airports in the context of hybrid-till model and lower airport charges	•	Impact on profitability of GHAs with increased competition and no rationalisation of royalties and other charges levied



Indian Aviation Industry



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India aviation industry is booming after a long gap and witnessing over 20 per cent growth due to a variety of positive reasons and with the scrapping of much abhorred 5/20' overseas flying norms and relaxing of FDI rules, the sector has got a further boost. Moreover, with UDAN coming into operations earlier this year, the common mass will truly be able to fly at an affordable price to even smaller cities. But experts opine inadequate infrastructure and high operating costs might work as limiting factors in industry's rapid expansion.

Under Prime Minister Narendra Modi, 2016 witnessed a first systematic and integrated policy

designed to propel the growth of airlines which, we already know, is rising by leaps and bounds every passing day. Keeping positive factors in mind aviation experts say India's domestic market is on track to surpass 100 million passengers in FY2017. After a strong FY2016, traffic growth has accelerated further in FY2017, with India likely to overtake Japan this year to become the world's third largest domestic market behind the USA and China.

Global airline body International Air Transport Association (IATA) says India will become the third largest aviation market in the world by displacing the UK in 2026, while China will displace the US as the world's largest

aviation market (defined by traffic to, from and within the country) around 2029. India is currently the ninth largest aviation market in the market.

Continuous lower ATF prices and rise in domestic disposable income worked wonders for the sector and customers as a whole as a result passenger traffic during January-November 2016 zoomed by 23.10 per cent to 90.36 million and National Civil Aviation Policy (NCAP), is expected to further strengthen the sector.

NCAP did away with controversial 5/20 norm and now any domestic airline can fly overseas provided they deploy 20 planes or 20 per cent of their total capacity for domestic operations.

But, Kingfisher Airlines of Vijay Mallya which spearheaded the demand for scrapping of 5/20 norm was not there to avail of the new opportunity as it is defunct.

The Government wants to take flying to the masses by making it affordable and convenient. So, airlines will charge only Rs 2,500 for one-hour flights and will get tax incentives for operating on unserved routes even as fliers will have to pay an additional levy towards regional connectivity fund. The 'UDAN' (Ude Desh ka Aam Naagrik) Regional Connectivity Scheme (RCS) is expected to become a reality from early 2017.

The Government wants to take flying to the masses by making it affordable and convenient. This would ultimately lead to the growth of the civil aviation sector as a whole but all domestic airlines, barring Air India, have ganged up against Government's notification imposing a levy of Rs 7500 to Rs 8500 per flight to create a fund for development of regional airports.

The Federation of Indian Airlines which represents scheduled carriers like Jet Airways, Indigo, Spicejet and Go Air have gone to court challenging the Government notification imposing a levy per flight to create a fund for development of regional airports.

Minister of State for Civil Aviation Jayant Sinha remarked in a FICCI function saying aviation sector is the sunrise sector of growth and going through profound changes.

The aviation sector has dramatic headroom for growth with 150 million passenger trips a year as compared to China with 450 million passenger trips and USA at 800 million passenger trips a year.

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The total revenue of airlines is Rs 1.4 lakh crore and is growing at a rate of 20 per cent. He added that as of today 9 crore passenger travel domestically and 5 crore internationally.

Going ahead, he said that Government is working to build airport capacity by expanding existing terminals, building new terminals and developing greenfield airports. The Minister said that Rs

2.5-3 lakh crore investment is required for airports excluding the land acquisition cost. He added that government is a developing regulatory framework for the aviation sector to make it asset class attractive.

2016 saw low-cost carrier IndiGo becoming the first Indian airline to operate the fuel-efficient A320 Neo plane while another budget airline GoAir became eligible for international operations as it inducted 20th aircraft into the fleet.

Regional carrier Air received national operator's permit from DGCA the league of pan-India operators as DGCA granted it national operator's permit while Air Pegasus was forced to ground its operations and its flying permit was also suspended. Around the same time, Air Costa shed its regional tag and joined the league of pan-India operators as DGCA granted it national operator's permit.

Meanwhile, as per DGCA data domestic air passenger traffic rose nearly 24 per cent in December 2016 to 95.52 lakh from 77.09 lakh registered during the same period of 2015 but IndiGo continued to deliver poor on time performance besides losing market share by almost 2 per cent in the month. The number of passengers flown by the 11 local carriers stood at 95.52 lakh in December 2016 as against 77.09 lakh a year ago, thereby registering a growth of 23.9 per cent.

However, domestic travel demand in 2016 touched nearly 100 million mark, with the Indian airlines flying a total of 998.88 lakh ((99.88 million) passengers between the January-December period of 2016 as compared to 810.91 lakh in 2015, an increase of 23.18 per cent over 2015.



Airline companies are bullish on their growth and accordingly ordering new aircraft. Total order from Indian air carriers in late 2016 stand at 900 excluding the 72 that Go Air recently give. GoAir has, in January this year, firmed up the order for 72 A320 neo planes, estimated to be worth over Rs 52,000 crore, as the no-frills airline expands its fleet and prepares to fly overseas. With the latest development, the carrier -- part of the Wadia group -- now has placed firm orders with Airbus for 144 A320 neos (new engine option). The airline inducted the first A320 neo -- which have better fuel efficiency -- in

June last year and now has a fleet of 23 aircraft.

"The A320 neo provides the latest technical innovations and unbeatable economics... This new order will further strengthen our network by adding more domestic and international routes in the years to come," GoAir Managing Director and CEO Wolfgang Prock-Schauer had said.

In one of the biggest aircraft orders by an Indian airline, SpiceJet in the new year announced it will buy up to 205 Boeing planes worth \$22 billion (Rs 1.5 lakh crore). SpiceJet, Chairman, Ajay Singh, who brought the airline back from the verge of closure

two years back, said the order is a firm one for 155 Boeing 737-8 Max and 50 purchase rights for wide body long haul planes like Dreamliner and the B-737s.

"Our turnaround story has been one which has very few parallels in the world today and we are proud of it. SpiceJet has achieved seven consecutive quarters of profit, highest on-time performance and lowest cancellation and a record load factor of over 90 per cent every month for 20 months in a row," said Singh.

But as experts opine challenges are many---high operational costs. high cost of aviation turbine fuel, high service tax and other charges, shortage of maintenance facilities, high foreign exchange rate, competition from foreign airlines, congestion at airports and last not the least, lack of qualified pilots and technical manpower etc.

While rising crude oil price is not a good sign for our booming airline industry as ATF price constitute a major part of the any airlines' operating cost soaring air traffic is creating further infrastructure bottleneck. Thankfully, the current Government it trying the best on all these fronts. ■■■



Indian Civil Aviation Industry – Vision 2030



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The country's civil aviation industry is set into a path of exponential growth. A host of policy prescriptions of the NaMo administration is designed to make the country the third-largest aviation market by 2020-25 and the largest by 2030-35. Efforts are also afoot to turn India into a global air logistics and servicing hub.

India's air transport sector supports eight million jobs and contributes \$72 billion in GDP. A recent International Air Transport Association's (IATA) 20-year air passenger forecast, India will overtake the UK to become the third largest market with 278 million passengers in 2025. By 2035, India is expected to be a market of 442 million passengers, with the aviation industry supporting 19.1 million jobs and contributing to \$172 billion in GDP, according to the IATA-commissioned Value of Aviation study.

The data collated by Airport Authority of India (AAI) presents a more robust picture. They project that by 2020, passenger traffic at Indian airports may increase to 421 million from 223.61 million in 2016; travel & tourism

industry may record a CAGR of 6.75 percent to USD280.51 billion in 2026 from USD146.02 billion in 2016; and spending on business travel may increase to USD39.88 billion in 2026 from USD19.9 billion in 2016, while on leisure travel the spending is forecast to rise to USD203.5 billion in 2026 from USD96.20 billion in 2016.

Riding on the support of a liberalized policy regime, the civil aviation industry has entered a new era of expansion, driven by factors such as low-cost carriers (LCCs), modern airports, foreign direct investment (FDI) in domestic airlines, advanced information technology (IT) interventions and growing emphasis on regional connectivity. Consequently, the country has emerged as the ninth largest civil aviation market in the world, with a market size of around US\$ 16 billion. At the current pace of growth, it is expected to become the third largest aviation market by 2020.

"The world is focused on Indian aviation – from manufacturers, tourism boards, airlines and global businesses to individual travelers, shippers, and businessmen. If we can find common purpose

among all stakeholders in Indian aviation, a bright future is at hand" said Tony Tyler, Director General and CEO, International Air Transport Association (IATA).

During April-November 2016, domestic air passenger traffic rose 6.5 percent to 74.57 million from 60 million during the same period in 2015. Domestic air traffic is expected to cross 100 million passengers by FY2017, compared to 81 million passengers in 2015, as per Centre for Asia Pacific Aviation (CAPA). Total passenger traffic during FY 2015-16 increased at a rate of 21.3 percent to 85.57 million from 70.54 million in FY 2014-15, according to Airports' Authority of India (AAI) traffic figures.

In July 2016, total aircraft movements at all Indian airports stood at 168,400, which was 14.3 percent higher than July 2015. International aircraft movements increased by 8.2 per cent to 32,830 in July 2016 from 30,330 in July 2015. Domestic aircraft movements increased by 15.8 per cent to 135,570 in July 2016 from 117,050 in July 2015.

India is among the five

fastest-growing aviation markets globally with 275 million new passengers. The airlines operating in India are projected to record a collective operating profit of Rs 8,100 crore (US\$ 1.29 billion) in the fiscal year 2016, according to Crisil. Ltd.

According to the data released by the Department of Industrial Policy and Promotion (DIPP), FDI inflows in air transport (including air freight) between April 2000 and March 2016 stood at US\$ 931.05 million. Key investments and developments in the country's aviation industry include:

- Airbus SAS has signed an agreement with Karnataka-based Aequus Aerospace, an aircraft component maker, for the supply of over 100,000 titanium machined parts for its A320 new engine option (NEO) aircraft.

- Boeing Company, an American plane maker, and Tata Advanced Systems Ltd (TASL), a fully owned subsidiary of Tata Sons, have entered into a joint venture to set up a new facility in Hyderabad to manufacture Boeing AH-64 Apache helicopter fuselages.

- GoAir, India's fifth-biggest carrier by passengers traveled, has signed a memorandum of understanding (MoU) with Airbus to buy 72 A320 neo aircraft, valued at US\$ 7.7 billion, as part of an expansion drive.

- Lockheed Martin Corporation plans to make India a manufacturing base for its F-16V fighter jets, C-130J Super Hercules military transport planes, and helicopters.

- Auto components maker Bharat Forge Ltd (BFL), the flagship company of the US\$ 3 billion

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Kalyani Group, has formalized an agreement with Rolls-Royce Plc, under which BFL will supply critical and high integrity forged and machined components for a range of aero engines.

- The Ministry of Civil Aviation has signed Memorandum of Understanding (MoU) with Finland, Kazakhstan, Kenya, Sweden, Norway, Denmark, Oman and Ethiopia for increased co-operation between the countries in terms of additional

seats, sharing of airlines codes, increased frequencies and additional points of call, during the International Civil Aviation Negotiations (ICAN), 2015 held in Antalya, Turkey.

- Tata Advanced Systems (TASL) has signed a joint venture with American aircraft manufacturing major, Boeing, to establish a center of excellence for manufacturing aerostructures for Apache helicopter initially and collaborate on integrated systems development opportunities in India in the long term.

- US-based aircraft manufacturer Boeing plans to assemble one of its two helicopters namely, Chinook (heavy-lift) or Apache (attack type) in India, thus becoming yet another global company to invest in India encouraged by the 'Make in India' campaign.

- Airbus, leading European aircraft manufacturer, plans to invest US\$ 40 million in setting up a pilot and maintenance training center in New Delhi, which will be operational by the end of 2017.

- Airbus also expects India's aviation industry to grow at over 10 percent annually in the next decade, almost double the average growth rate of the global aviation industry.

As global aviation giants move to make India home, government and AAI are working to set up a chain of brownfield and greenfield airports by 2020. The private sector is being encouraged to become actively involved in the construction of airports through different Public Private Partnership models, with substantial state support in terms of financing, concessional land allotment, tax holidays and other incentives.



In the Union Budget 2016-17, the government introduced various proposals for Maintenance, Repair and Overhaul (MRO) operations for airplanes. These include customs and excise duty exemption for tools and toolkits used in MRO works. The government has also scrapped the one-year restriction for utilization of duty-free parts apart from allowing import of unserviceable parts by MROs for providing the exchange. As per revised norms, the foreign aircraft brought into India for MRO work would now be permitted to stay up to six months or as extended by aviation regulator Directorate General of Civil Aviation (DGCA). Such foreign aircraft would also be henceforth permitted to carry passengers in the flights at the start and end of its period of stay in India.

Some major initiatives undertaken by the government are:

The Ministry of Civil Aviation has finalized and put forward for approval to the Union Cabinet, the new aviation policy, which includes proposals such as allowing new airlines to fly abroad, the introduction of more regional flights and a new formula for granting bilateral flying rights.

The Indian Space Research Organisation (ISRO) has signed a memorandum of understanding (MoU) with the Airports Authority of India (AAI), aimed

at providing space technology for construction of airports.

The Government of India is planning to boost regional connectivity by setting up 50 new airports over the next three years, out of which at least 10 would be operational by 2017.

Airports Authority of India (AAI) plans to develop city-side infrastructure at 13 regional airports across India, with help from private players for the building of hotels, car parks, and other facilities, and thereby boost its non-aeronautical revenues.

Directorate General of Civil Aviation (DGCA), India's aviation regulator, has signed an agreement with United States Technical Development Agency (USTDA) for India Aviation Safety Technical Assistance Phase II, aimed at bringing in systemic improvements in the area of operation, airworthiness and licensing.

The Government of India has given site clearance to Delhi Mumbai Industrial Corridor and Development Corporation (DMICDC) for setting up of a Greenfield Airport for public use near Bhiwadi in Alwar district of Rajasthan and has granted 'in-principle' approval to 13 other greenfield airport projects.

The Airports Authority of India (AAI) plans to revive and operationalise around 50 airports in

India over the next 10 years to improve regional and remote air connectivity.

Gujarat is expected to get a second international airport at Dholera. The state government has formed Dholera International Airport Co. Ltd. and is obtaining approvals from the union government.

The Directorate General of Civil Aviation (DGCA) has given its approval to Air India's maintenance, repair, and overhaul (MRO) unit.

The Government of India has decided to award airports in Kolkata, Chennai, Jaipur and Ahmedabad on management contract. AAI has issued the 'Request for Qualification' document for these four airports.

The country's aviation industry is largely untapped as air transport is still expensive for a majority of the country's population, of which only 40 percent is the upwardly mobile middle class.

A report of the India Brand Equity Foundation (IBEF) observes that "the industry stakeholders should engage and collaborate with policy makers to implement efficient and rational decisions that would boost India's civil aviation industry. With the right policies and relentless focus on quality, cost and passenger interest, India would be well placed to achieve its vision of becoming the third-largest aviation market by 2020 and the largest by 2030."



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The Future of the Indian Aviation Industry

Passenger preferences and technology to play a key role in the Indian Aviation space



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With the world's fastest-growing aviation sector, India is on the cusp of becoming a leader in air travel. Its domestic market grew at a staggering 20.2% in RPK (revenue passenger kilometres) terms in 2015 and total passenger numbers increased by over 17% last year. There are over 180 million people traveling to, from and within India by air. That figure is expected to more than double to 370 million by 2020, by which time India will be the world's third largest aviation market.

Despite this great potential there are immense challenges to overcome. For a start India's airline industry faces continuing financial issues even with aircraft flying almost full – domestic load factors were a record 83.2% in 2015. Managing capacity at airports to keep pace with passenger demand is also a major challenge. Limited infrastructure means many airports are already operating above their design limits and delays in the development of second airports, such as in Mumbai, Chennai and Goa, is causing

serious congestion issues.

While there is a meteoric rise up the air travel market rankings, India's aviation industry is largely untapped. How much and how fast this potential is realized depends on how quickly airlines and airports embrace the efficiencies and passenger convenience that advanced IT systems and services bring. Many IT investments are specifically targeted at India's aspiring, tech savvy middle class. It is notable that while smartphone penetration is less than one-third of the general population, the penetration among air travelers is 92%.

To thrive in the dynamic environment, Air Transport Industry in India needs technology, as per the latest SITA IT Trends Benchmark Report which provides 360 degree view of air travel in India and outlines some of the focused technology areas.

India's Passengers Want Tech-Based Travel

Air travel operators are having to stay nimble and invest in technology to help bridge the capacity

gap and all airlines in India expect to see IT budget increases in 2017 compared to 2016. This contrasts markedly to global airline confidence on future IT budgets, with just over half expecting an increase and around a third will see no change in 2017.

Airports in India are similarly positive about IT spending going forward with 80% of airports expecting an IT budget increase in 2017 compared to airports 58% expect an IT budget increase in 2017 and almost a third expect budgets to remain static.

Also, most airlines and airports in India are targeting IT investment in this area to capitalize on the trend of self-service. Over the next three years, 80% of airlines

and 67% of airports plan major projects developing mobile services for passengers.

The opportunity for airlines and airports is to capitalize on the increasingly tech savvy population of travelers.

Much of the increase is driven by a boom in mobile-data users and India ranks very highly on a country index of IT usage.

Industry Aiming to Increase Adoption of Self-Service Tech

Currently, 54% of passengers in India use some self-service tech on their journey and considering plans for the next three years airlines and airports in India are ahead of, or in line with, the

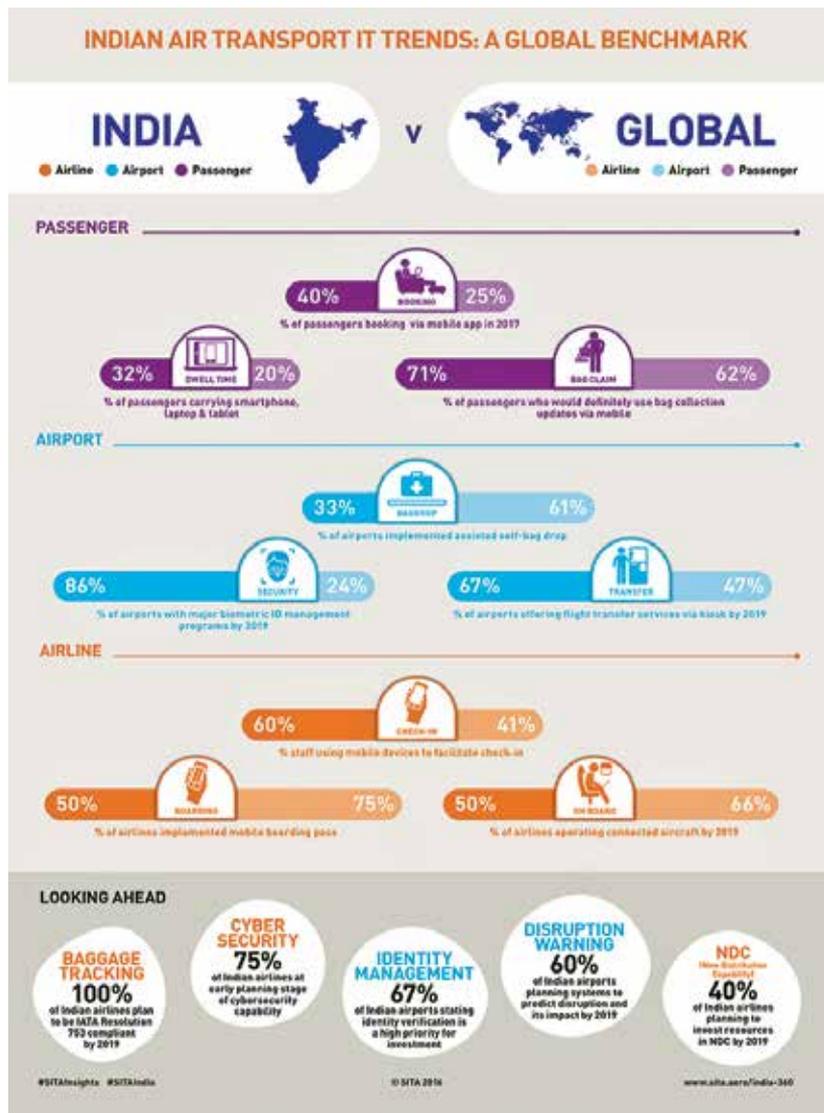
ambitions for self-service processes globally. For example, web check-in is available to passengers at all airlines in India and was used by 32% of passengers for their last flight, in line with the global norm.

The vast majority of airports (83%) have deployed check-in kiosks, slightly below global levels, but over the next three years the remaining Indian airports plan to install them. However, usage by passengers is much less than seen globally with only 10% of passengers using them, compared to a global average of 14%.

Also, India is a long way behind global levels of self bag-drop implementations, but over the next few years this rate is expected to accelerate and exceed the global average. By 2019, over 80% of airports expect to put in place an assisted self bag-drop system.

A key enabler for driving high adoption of self-service bag-drop is kiosks that can print bag tags. Today, around two-thirds of Indian airports have kiosks that can do this, well above the global level. However, despite the widespread availability, passenger usage of kiosks for printing bag tags is only 19%, on par with the global usage level.

Automated boarding gates are still a relatively rare sight having been deployed at just one in five airports globally. However, Indian airports have been much quicker to adopt the technology and today one in three airports has deployed them, which will double to two out of three by 2019.



Interest for Mobile App Services is Strong

Airlines are also starting to make

good progress adding information services to their apps. Within three years, flight status notifications, location-based notifications and baggage related updates will be available at around 75%-80% of airlines in India, in line with global levels. The availability of airport beacon or sensor infrastructure will play a critical role in enabling these new services.

Overall passengers across the globe are becoming so comfortable with technology that they choose to use it rather than interact with people and India is no exception. But one size does not fit all and the emergence of four distinct traveler profiles- Careful Planner, Hyper-connected, Pampered and Open-minded adventurer, each of whom use technology in different ways, is a significant consideration when airlines and airports consider self-service adoption rates and the introduction of new technology.

India Starts to Innovate with IoT

Airlines in India also see promise in using Internet of Things (IoT) to improve aircraft efficiencies. All airlines surveyed for the SITA India IT Trends Benchmark 2016, expect to run an R&D project in the next few years using IoT technologies to investigate potential benefits from monitoring aircraft fuel and engines, as well as the cabin environment in terms of lighting and heating.

Indian airports too are carrying out trials to test IoT related technologies. There is particular interest in the single biometric token for identity management. This has the potential to eliminate bottlenecks and reduce stress for passengers.

By 2019, the majority of airports in India intend to have beacons or other sensor technology at most steps in the passenger journey, including check-in, bag-drop, boarding and bag reclaim. This will allow the airlines to launch new location-based mobile services for passengers during their journey.

Connected Aircraft to Ramp Up on-Board Mobile Services

Bringing the aircraft into the IoT ecosystem so that passengers can have a truly connected journey from departure to arrival is a long term industry goal. Currently no Indian airline is providing on-board connectivity services for passengers, but this should change over the next three years, with half or more airlines planning to introduce a variety of data-driven services, from basic internet access to streaming multimedia files and live TV.

Smart Bag Tags to Comply with IATA Resolution 753

To address the passenger needs, the industry is preparing to introduce IATA Resolution 753 in June 2018, which will oblige airlines to track bags from the point of receipt from the passenger until it is returned to them at the destination. Many airlines in India are undertaking major IoT enabled services to be compliant with the IATA Resolution 753 over the next three years, more so than airlines globally. In fact, all airlines in India will be making some investment towards being compliant by 2019, whereas only 74% of airlines globally will be doing this.

Industry Gearing Up to Manage Cyber Threats

While the majority of airlines in India see cyber security as a board level priority, they have not made the same level of progress as global airlines where 28% have already fully integrated it into their company's business plan. No airlines in India have achieved this yet.

Today a quarter of airlines in India say they are fully prepared to deal with any cyber threat, whereas there were none three years ago. This is in line with the global level, but the remaining three-quarters of airlines in India admit to only being in the early stage of developing plans, which compares unfavourably with the 8% of airlines globally.

Big Data for Smart Operations

The widespread introduction of sensor technology is going to produce a vast quantity of new data. This will provide the industry with new intelligence and better predictability for operations. Airlines and airports in India are moving quickly in this direction with major IT programs planned over the next three years, much more so than seen globally.

Drones, Robots and Virtual Reality

Drones and Robots are some of the emerging technologies on the outer edges of the tech radar. 75% of airlines in India see the long-term potential for their use and expect trials in the 5-10 year time frame.

A quarter of airlines in India plan trials of virtual reality for either passenger or staff applications within five years. ■■■

RFID is Gaining Importance in Aviation Industry



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R RFID stands for Radio-Frequency Identification. The acronym refers to small electronic devices that consist of a small chip and an antenna. The RFID device serves the same purpose as a bar code or a magnetic strip on the back of a credit card or ATM card; it provides a unique identifier for that object. And just as a bar code or magnetic strip must be scanned to get the information, the RFID device must be scanned to retrieve the identifying information.

How RFID Works

How does RFID work? A Radio-Frequency Identification system has three parts:

- A scanning antenna
- A transceiver with a decoder to interpret the data
- A transponder - the RFID tag - that has been programmed with information.

The scanning antenna puts out radio-frequency signals in a relatively short range. The RF radiation does two things:

- It provides a means of communicating with the transponder (the RFID tag) and,

- It provides the RFID tag with the energy to communicate.

This is an absolutely key part of the technology; RFID tags do not need to contain batteries, and can therefore remain usable for very long periods of time (maybe decades).

The scanning antennas can be permanently affixed to a surface; handheld antennas are also available. They can take whatever shape is required; for example, it could be built into a door frame to accept data from persons or objects passing through.

When an RFID tag passes through the field of the scanning antenna, it detects the activation signal from the antenna. That “wakes up” the RFID chip, and it transmits the information on its microchip to be picked up by the scanning antenna.

RFID system can basically collect/store and transfer data wirelessly using the radio frequency spectrum. It is unique from bar-code such that the receiver does not necessarily need to be within the line of sight from the RFID tag to receive data. Also, the RFID tag can have unique identification and store any relevant

information such as product serial number, production date, maintenance date and information (for aircraft parts) and so on.

Benefits of RFID in aviation industry

Attaching RFID tags to an object enables easy identification, tracking, and monitoring. In aviation industry, which deals with thousands of parts constantly in move (be it in airlines, aircraft MRO (maintenance, repair and overhaul), airport baggage handling, or air cargo industry, the benefits from RFID technology enabling smart identification and tracking of movable assets are highly beneficial.

RFID tags are capable to provide unique identification, and hence multiple tags can be read (processed) simultaneously. It highly enhances efficiency in situations where one has to deal with a large inventory of replenishing parts (mainly in aircraft MRO). Since, RFID tagging enables automation throughout the process, it also largely reduces manual labor (and hence labor costs) involved in inventory tracking and logistics handling. Furthermore, since RFID tags itself can store relevant

data it reduces the need to access a database in many cases.

Utilization of RFID in Airports

In airports, RFID technology is increasingly being used for baggage handling. The RFID-tagging of baggage are being used by some airlines and airports which largely help towards the goal of enabling automated check-in for passengers. Using such automated processes can speed up the baggage check-in process, in the airports equipped with RFID-enabled check-in stations. This saves time for both the passengers and airport personnel, and enhances customer satisfaction.

Also, RFID-tagged bags have higher read rates over the barcode system. This lead to increased accuracy in baggage handling, and fewer instances of mishandled baggage, or baggage being lost or stolen. Airlines and airports have jumped into this trend of 'smart baggage handling' to provide their customers with hassle free experience and also the 'peace of mind' regarding the baggage handling process.

For Airlines and Aircraft Manufacturers

Aircraft manufacturers/OEMs are using RFID in many of the aircraft parts and components that are delivered to the customers. This allows the customer to easily track the status of the parts throughout the logistics process (from the point of manufacturing to on-site destination). Furthermore, manufacturers use RFID-tagging in many of the rotatable aircraft parts, which helps to aggregate the manufacturing and maintenance data throughout the life-cycle of the part.



For an airline, the safety equipment inside an aircraft cabin has to be traced and checked for on-board availability. Airlines are utilizing RFID tagging (and hand-held RFID reader) which can scan and identify those objects much faster, than otherwise done manually.

In Aircraft MRO

RFID is highly beneficial for aircraft MRO as well. In an MRO facility there are hundreds of tools and parts that are used and moved constantly, in every day operations. Misplaced or lost tools and equipment is a common issue. Misplaced tools are also a major cause of FOD (foreign object damage) in a MRO facility. RFID utilization has proved highly effective to eliminate this problem.

Also, the maintenance process needs constant verification of service orders and availability of spare parts. Aircraft MRO personnel has to manually track these changes, as well as the paperwork regarding the inventory and maintenance operations. It has been found that maintenance personnel spend a large chunk of his time everyday in inventory paperwork rather than on actual maintenance work. RFID tagging

can automate this process and reduce the man hour involved in tracking and inventory handling processes, and also accurately replenish the spare parts as needed. Thus, for aircraft MRO supply chains, RFID technology has brought in process efficiency and cost savings by reducing the amount of manual tasks involved, and inaccuracy involved with inventory management.

Some more benefits of RFID

RFID tags come in a wide variety of shapes and sizes; they may be encased in a variety of materials:

- Animal tracking tags, inserted beneath the skin, can be rice-sized.
- Tags can be screw-shaped to identify trees or wooden items.
- Credit-card shaped for use in access applications.
- The anti-theft hard plastic tags attached to merchandise in stores are also RFID tags.
- Heavy-duty 120 by 100 by 50 millimeter rectangular transponders are used to track shipping containers, or heavy machinery, trucks, and railroad cars.

Some common problems with RFID

Some of problems are reader collision and tag collision. Reader collision occurs when the signals from two or more readers overlap. The tag is unable to respond to simultaneous queries. Systems must be carefully set up to avoid this problem. Tag collision occurs when many tags are present in a small area; but since the read time is very fast, it is easier for vendors to develop systems that ensure that tags respond one at a time.



दुनिया के बड़े एविएशन बाजार में बदलता भारत



नितिन प्रधान

लम्बे अरसे बाद देश को नई एविएशन नीति मिली है जिसने छोटी एयरलाइनों के विकास का रास्ता खोला है। इसके बाद लाई गई रीजनल कनेक्टिविटी स्कीम (आरसीएस – उड़ान) ने इसके तौर तरीके भी स्पष्ट कर दिए। उम्मीद है कि ये दो कदम आगे चल कर एविएशन क्षेत्र में देश का हुलिया पूरी तरह बदल देंगे। अगर इन नीतियों पर गंभीरता से अमल हुआ तो देश के प्रत्येक भौगोलिक क्षेत्र के साथ-साथ हर वर्ग तक एविएशन की पहुंच होगी। ऐसा पहली बार हुआ है जब छोटी एयरलाइनों और छोटे शहरों के लिए विमानन क्षेत्र के दरवाजे एक व्यापक नीति के जरिए खुले हैं। आरसीएस-उड़ान की घोषणा के बाद अब तक लगभग दो दर्जन एयरलाइनें इसके लिए आवेदन कर चुकी हैं। इन्हें छोटे शहरों के लिए उड़ान भरने पर सरकार से सब्सिडी मिलेगी। स्कीम के जरिए सरकार का इरादा प्रदेशों की राजधानियों को रीजनल हब के

तौर पर विकसित करने का है। जो महानगरों और छोटे नगरों के बीच की 'कनेक्टिंग प्वाइंटों' का काम करेंगे। इसमें प्रति घंटे 2500 रुपए के किराए का प्रावधान रखा गया है जिससे हवाई यात्रा आम आदमी की पहुंच में हो सकेगी। हालांकि इससे महानगरों के बीच की उड़ाने कुछ महंगी हो सकती हैं। क्योंकि छोटी एयरलाइनों को सब्सिडी देने के लिए सरकार बड़ी एयरलाइनों के यात्रियों पर सेस लगाएगी। चंडीगढ़ जैसे कुछ नव विकसित एयरपोर्ट भी इस साल चालू हुए हैं।

यह एविएशन क्षेत्र की तस्वीर है जिसका इंतजार देश को बरसों से था। कई दफे इस तरह के प्रयास हुए कि विमानन क्षेत्र को रेलवे के प्रतिस्पर्धी या विकल्प के तौर पर स्थापित किया जाए। लेकिन नीतियों के क्रियान्वयन में गंभीरता का अभाव इस उद्देश्य की प्राप्ति के आड़े आया। लेकिन अब जो प्रयास हो रहे हैं उनसे लगता है कि इस क्षेत्र का विकास की रफ्तार तेज होगी।

इन नीतियों पर अमल के बाद साल 2020 तक भारतीय एविएशन क्षेत्र के दुनिया का तीसरा सबसे बड़ा एविएशन बाजार बनने की अम्मीद है। वृद्धि की रफ्तार यही बनी रही तो साल 2030 तक भारत दुनिया का सबसे बड़ा एविएशन बाजार हो जाएगा। यही सरकार का लक्ष्य भी है। अभी दुनिया के एविएशन बाजारों में भारत 16 अरब डॉलर के बाजार के साथ नवें स्थान पर है। अगर एविएशन बाजार की विकास की रफ्तार को देखें तो जनवरी अगस्त 2016 के दौरान घरेलू विमान यात्रियों की संख्या में 23.14 फीसदी की वृद्धि हुई है। यह संख्या 5.23 करोड़ यात्रियों से बढ़कर 6.44 करोड़ पर पहुंच गई है। बीते वित्त वर्ष यानी 2015-16 में विमान यात्रियों की संख्या में 21.3 फीसद की वृद्धि हुई थी। बढ़ते एयर ट्रैफिक का अंदाज इस बात से भी लगाया जा सकता है कि अकेले जुलाई 2016 में देश के सभी एयरपोर्ट्स से 1,68,400 उड़ानों का संचालन हुआ। यह जुलाई 2015 के मुकाबले 14.3 फीसद अधिक था।

देश में बढ़ते एयर ट्रैफिक का अंदाज लगाने के साथ ही विमानन क्षेत्र में निवेशकों की रुचि भी लगातार बढ़ती गई है। अप्रैल 2000 से लेकर मार्च 2016 की अवधि में इस क्षेत्र में 93.10 करोड़ डॉलर का विदेशी निवेश आया। अब सरकार वे विमानन क्षेत्र में सौ फीसद प्रत्यक्ष विदेशी निवेश की अनुमति दी है। जिसके तहत 49 फीसद एफडीआई बिना किसी सरकारी अनुमति के (ऑटोमैटिक रूट), जबकि उससे अधिक सौ फीसद तक एफडीआई सरकार की अनुमति से किया जा सकेगा। अभी तक एयरलाइनों में ऑटोमैटिक रूट से 49 फीसद एफडीआई की अनुमति थी। इस फैसले से देश में नई विदेशी एयरलाइनों के प्रवेश का रास्ता खुल गया है। जिसका सर्वाधिक लाभ रीजनल कनेक्टिविटी स्कीम को मिलेगा जिसकी घोषणा अभी हाल ही में हुई है। माना जाता है कि गैर-एयरलाइन विदेशी कंपनियों को ही भारतीय एयरलाइनों में सौ फीसद एफडीआई की अनुमति दी जाएगी। जबकि विदेशी एयरलाइनों के भारतीय एयरलाइनों में हिस्सेदारी हासिल करने की अधिकतम सीमा अभी भी 49 फीसद ही रहेगी। इसका अर्थ यह हुआ कि किसी भारतीय एयरलाइन को विदेश की एयरलाइन और गैर-एयरलाइन कंपनियां मिलकर खरीद सकती हैं। जिसमें 49 फीसद इक्विटी एयरलाइन की जबकि उससे ऊपर गैर-एयरलाइन की हो सकती है। गैर-एयरलाइन विदेशी कंपनियों में

सरकार ने हाल में घोषित विमानन नीति के तहत रीजनल कनेक्टिविटी स्कीम में छोटे व मझोले नगरों में निष्क्रिय या कम उपयोग वाले एयरपोर्ट्स के विस्तार व आधुनिकीकरण का मंसूबा भी बांधा है। इसे अमल में लाने की गरज से ही अब मौजूदा (ब्राउनफील्ड) एयरपोर्ट्स में सौ फीसद तक एफडीआई के लिए दरवाजे भी खोल दिए गए हैं। इससे एयरपोर्ट ऑपरेटर कंपनियां भारत के मौजूदा एयरपोर्ट का आसानी से अधिग्रहण एवं विकास कर सकेंगी। इसका सीधा लाभ एयरपोर्ट अथॉरिटी के अधीन आने वाले उन लगभग साठ छोटे व मझोले एयरपोर्ट्स को मिलेगा जो अविकसित या अर्धविकसित हैं।

उसी देश के सॉवरेन फंड शामिल हैं जिस देश की एयरलाइन खड़ी कर लेंगी अथवा मौजूदा एयरलाइनों का अधिग्रहण कर एयर इंडिया को चुनौती देंगी।

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विस्तार व आधुनिकीकरण का मंसूबा भी बांधा है। इसे अमल में लाने की गरज से ही अब मौजूदा (ब्राउनफील्ड) एयरपोर्ट्स में सौ फीसद तक एफडीआई के लिए दरवाजे भी खोल दिए गए हैं। इससे विदेशी एयरपोर्ट ऑपरेटर कंपनियां भारत के मौजूदा एयरपोर्ट का आसानी से अधिग्रहण एवं विकास कर सकेंगी। इसका सीधा लाभ एयरपोर्ट अथॉरिटी के अधीन आने वाले उन लगभग साठ छोटे व मझोले एयरपोर्ट्स को मिलेगा जो अविकसित या अर्धविकसित हैं। अभी तक हवाई अड्डों में 49 फीसद तक एफडीआई आटोमैटिक रूट से, जबकि उससे अधिक 74 फीसद तक एफडीआई सरकार की अनुमति से करने की छूट थी।

लेकिन इस नीति के बाद भी इसकी सफलता बहुत हद तक इस बात पर निर्भर करती है कि देश की अर्थव्यवस्था का ऊंट किस करवट बैठता है। एविएशन बाजार खास तौर पर क्षेत्रीय उड़ानों का भविष्य इस बात पर निर्भर करता है कि इन मार्गों पर यात्रियों की कितनी उपलब्धता है। हालांकि किराया सस्ता होने और उसके रेल किरायों के साथ प्रतिस्पर्धी होने से यात्रियों की संख्या में काफी हद तक वृद्धि हो सकती है। लेकिन इसके लिए बड़े पैमाने पर विमानन कंपनियों को सब्सिडी के जरिए इन मार्गों पर हवाई मार्गों को विकसित करने का प्रयोग कर चुकी है। लेकिन आज की नीति और पुरानी नीति में इतना फर्क जरूर है कि मौजूदा पॉलिसी विमानन कंपनियों को सस्ता

ईंधन उपलब्ध करा कर प्रोत्साहित कर रही है। इधर विमानन कंपनियों की संख्या में वृद्धि होने के बाद इस क्षेत्र में प्रतिस्पर्धा बढ़ी है जिसके चलते हवाई किराए भी प्रतिस्पर्धी हुए हैं। इधर बीते दो वर्षों में कच्चे तेल की अंतरराष्ट्रीय बाजार में कम कीमतों ने भी विमानन कंपनियों की संचालन लागत को काफी हद तक नियंत्रण में रखा है। उसका फायदा भी इन कंपनियों ने यात्रियों को सस्ते किराए के रूप में दिया है।

विमानन को दुनिया भर में विकास का इंजन माना जाता है। जो देश विकसित हैं उन्होंने पहले अपने विमानन उद्योग का विकास किया। यह ऐसा क्षेत्र है जहां प्रत्येक 100 डॉलर के निवेश से 325 डॉलर की कमाई जबकि प्रत्येक 100 लोगों के रोजगार पर अन्य क्षेत्रों

में 610 लोगों के लिए रोजगार के अवसर बनते हैं। पर्यटन और विमानन के बीच गहरा संबंध है। यह इसी बात से साबित हो जाता है कि 90 फीसद से ज्यादा अंतरराष्ट्रीय पर्यटक हवाई जहाज से भारत आते हैं। वर्ष 2009 में किए गए एक अध्ययन के मुताबिक विमानन उद्योग ने सकल घरेलू उत्पाद (जीडीपी) में 0.5 फीसद प्रत्यक्ष व 1.5 फीसद परोक्ष योगदान किया है। पर्यटन के 5 फीसद योगदान के साथ मिलकर यह योगदान 6.5 फीसद हो जाता है।

आकार, जनसंख्या और अर्थव्यवस्था के हिसाब से देश में विमानन उद्योग का आकार बहुत छोटा है। एक दर्जन शिड्यूल्ड एयरलाइनों के पास महज 400 विमान हैं। जबकि 120 नॉन शिड्यूल्ड एयरलाइनों के पास महज

370 से कम विमान व हेलीकॉप्टर हैं। इसके बावजूद भारतीय एविएशन क्षेत्र के अब तक के विकास को देखा जाए तो अभी भी इसमें वृद्धि की अपार संभावनाएं मौजूद हैं। चूंकि अभी भी देश की अधिसंख्य जनता के लिए हवाई यात्रा पहुंच से बाहर है। लेकिन इस वर्ग की चालीस फीसद जनता उस मध्य वर्ग की है जो लगातार उन्नति के रास्ते पर बढ़ रहा है। इसलिए इस वर्ग को संभावित हवाई यात्री माना जा सकता है। लेकिन उसके लिए भी उपयुक्त और उद्योग मित्र नीतियां लागू करना आवश्यक होगा। जितनी ज्यादा विमानन कंपनियां घरेलू उड्डयन क्षेत्र में उड़ान भरेंगी किराए उतने ही ज्यादा प्रतिस्पर्धी होंगे। इसके अलावा विमानन उद्योग भी विकसित होगा और रोजगार के अवसर पैदा होंगे। ■■■

43rd AGM of SCOPE held

SCOPE held its 43rd Annual General Meeting of the Governing Council of SCOPE (the apex body of PSEs) on 28th December 2016. Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC and Dr. U.D. Choubey, Director General, SCOPE addressed the AGM attended by large number of Chief Executives, Directors and Senior Executives of PSEs. In his address Mr. Ved Prakash, Chairman, SCOPE informed that SCOPE has transformed



Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC addressing the 43rd AGM of SCOPE (On Right) and Dr. U. D. Choubey, DG, SCOPE is also seen in the photograph.

its role to become more proactive to enable the PSEs to compete in today's highly dynamic global environment. Chairman, SCOPE also welcomed the Indian Government's move about demonetization of higher value currency notes. He said that SCOPE and Public Sector Enterprises welcome this key economic initiative of the Government of India, which is expected to improve the country's economy.

Dr. U.D. Choubey, Director General, SCOPE in his address gave detailed account of various activities and initiatives of SCOPE. While highlighting the initiatives, Dr. Choubey said today HR policies need to be in sync with the business strategies of the organization. Realizing the transformational change required to converge HR into a line function, SCOPE will be organizing the International HR Summit in February next year to share best HR practices adopted globally in both public and private sectors, Dr. Choubey informed.

In his address, Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC thanked Chief Executives of member PSEs for the support extended to SCOPE all these years for the sustained

performance and growth of Public Sector Enterprises (PSEs) in India. He said the World economic growth in the year 2015-16 has been nearly stagnant. Though the global financial crisis

is more than 7 years behind us, yet the world economy continues to struggle to regain momentum. He said that India has been a bright spot in this otherwise gloomy market.

Chairman, SCOPE also welcomed the Indian Government's move about demonetization of higher value currency notes on 8th November 2016. He said that SCOPE and Public Sector Enterprises welcome this key economic initiative of the Government of India, which is expected to bring efficiency in the country's economy and in turn lower the capital cost, improve investments, and bring about more employment in the long run.

He added that Public Sector participation in SCOPE's activities have been encouraging and requested more PSEs to participate in them. The Executive Board of SCOPE from time to time deliberated on the issues of concerns to CPSEs which were to be taken up with the policy makers. Chairman informed that SCOPE had forwarded recommendations/suggestions to the Ministry of Law on the amendment of Arbitration Act, after deliberations in the Legal Committee of SCOPE and the Ministry of Law has considered quite a few suggestions/recommendations given by SCOPE.

He mentioned that the Constitution of the Third Pay Revision Committee by the Government of India is a very welcome step for the PSEs. He briefed the members about SCOPE's efforts in this regard.

Speaking about the unique initiative of SCOPE, Academy of Public Sector Enterprises (APSE), he said that already Three programs have been conducted. He requested more PSEs to take advantage of the program.

He briefed about the Public Sector Day celebration which was

graced by the Hon'ble President of India. Chairman also informed that SCOPE has developed an Advanced Global Leadership Program so as to enable the top management of PSEs to gain better understanding of the global economic environment. Based on the feedback received from Member Enterprises, we have improved the programme.

With regard to initiatives taken by SCOPE towards Corporate Governance, he mentioned that SCOPE is also organizing programmes on it. Enhancing the standards of corporate governance and corporate management has become a pre-requisite for the growth and competitiveness of the enterprises.

While highlighting the growing importance and changing role of HR, he apprised about the International HR Summit being organized in February 2016. The feedback for the program has been very encouraging and has proved very helpful to HR professionals in dealing with the challenging environment. A special issue of KALEIDOSCOPE was also brought out on the occasion.

He also said that SCOPE has been organizing programs several programs on RTI Act, Excellence in Occupational, Safety & Health in Workplace and Corporate Communication Summit that are extremely helpful for the PSEs. He also mentioned that SCOPE conducted a diagnostic study on Risk Management in CPSEs with Price Waterhouse Coopers (PWC). This study was dedicated to identify key risk areas which need to be strengthened.

As regards to SCOPE Complex and SCOPE Minar, Chairman

stated that special thrust has been given for safety, security and improving services. Various measures such as installation of X-ray Scanner machine, CCTV & Visitors Management System have been taken to improve utility services/working. A computerized complaint cell & grievance Redressal cell have been created in both the complexes to understand and promptly attend the complaints of the constituents. He appreciated the support, cooperation and involvement of constituents of both the building. Chairman, SCOPE thanked DPE, Ministry of HI&PE, Government Agencies, SCOPE Executive Board, DG, SCOPE and SCOPE Officials for supporting SCOPE in all its initiatives. He added that a calendar of events organized by SCOPE would be circulated in advance and a meeting of all the CEOs is also being considered.

Dr. U.D. Choubey, Director General, SCOPE in his address highlighted the financial performance of SCOPE. He stated that one of the key developments in the year has been demonetization of higher value currency. The impact of the move is likely to be positive in the long run as consolidation of capital in the hands of the Sovereign is a better way for welfare state.

DG, SCOPE mentioned SCOPE celebrated Public Sector Day on 11th April 2016 at Vigyan Bhawan. He mentioned that SCOPE is seeking the convenience of Hon'ble President of India for the next Award function.

He said that in a meeting with Chairman, PESB where DPE also participated it was decided to form a think tank of CMDs/Directors from PSEs to organize



Mr. Nirmal Sinha, Former Chairman, SCOPE, handing over the SCOPE Flag to Mr. Ved Prakash, New Chairman, SCOPE & CMD, MMTTC.



Dr. U.D. Choubey, DG, SCOPE handing over the Public Sector Flag to Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTTC.

a workshop in all four Chapters of SCOPE (North, South, East and West) where best practices in HR, Finance, Business Development & Innovation would be shared.

DG, SCOPE also apprised that DPE notified appointment of the 3rd Pay Revision Committee under the chairmanship of Justice Satish Chandra (Retd). In this regard, SCOPE engaged M/s Aon Services India Pvt. Ltd. to study the pay structure and emoluments in different sectors and CPSEs and provide recommendations thereof. A number of interactions were organized by SCOPE. Recommendations have since been submitted.

DG, SCOPE spoke about the SCOPE's coveted award SCOPE Meritorious Awards and said that Winners were decided under different categories. He said that the next award has also been initiated and PSEs can follow the due procedure to participate in the Award.

While briefing the Members about the initiatives taken with regard to setting up of the Academy of Public Sector Enterprises, he

mentioned that SCOPE would also consider tailor made programs for PSEs.

Talking about the Advanced Global Leadership Program that is jointly organized by SCOPE and IIM Calcutta, DG, SCOPE said that the 5th in the series Advanced Global Leadership Program was organized in August-September 2016 for Chief Executives, Functional Directors, Executive Directors and General Managers. The two week program was conducted in both Europe and USA.

DG, SCOPE informed the gathering that after successful completion of two HR Summits in 2015 and 2016, SCOPE will organize the third international HR Summit in February 2017 for which international faculty would also be drawn. He also apprised the members that SCOPE successfully organized the 14th program on Corporate Governance in November 2016.

With regard to effective implementation of RTI Act in CPSEs, he mentioned that SCOPE has been regularly organizing interactive sessions on RTI Act 2005 to

share the implications of RTI Act and its importance in corporate governance of CPSEs. During the Annual Convention of CIC in November 2016, SCOPE and PSEs were exclusively given a session and presentations were also made.

SCOPE Forum for Conciliation & Arbitration (SFCA) has been constituted for resolution of disputes arising out of various contract agreements between PSEs and Private Enterprises/Cooperatives in the most cost and time effective manner. It also provided a platform for sharing latest development in the areas of arbitration, conciliation, legal laws, international contracts etc., he added.

DG, SCOPE mentioned the various programs organized by SCOPE, like, Reforms in Labour Laws; Occupational Safety & Health; Preparing on GST; Climate Change; Internal Finance Controls; Ind AS; Cyber Security; E Governance; Project Management; Wellness Programs and many more.

Talking about the quality of monthly magazine of SCOPE-KALEIDOSCOPE, he said that



Representatives of the Governing Council of SCOPE attending the 43rd AGM.

with respect to content and printing quality has improved significantly. Special Issues on relevant subjects have been released from time to time. He said that SCOPE has been working seamlessly for the betterment of PSEs.

He also invited suggestions from Members for the betterment of SCOPE and Public Sector and also thanked the Members for their cooperation and unstinted support in the activities of SCOPE. He thanked government

in particular, DPE, Ministry of HI&PE in providing guidance and support to SCOPE in all its initiatives. He also thanked the Members of their Executive Board of SCOPE for their valuable guidance and support. ■ ■ ■



Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC and Dr. U. D. Choubey, Director General, SCOPE met Cabinet Secretary, Mr. P. K. Sinha on pay revision issue and other issues to PSEs.



Dr. U.D. Choubey, Director General, SCOPE delivering keynote address at the National Seminar on "Best Practices in Tendering, Contract Management and Disputes Resolution" organized jointly by SCOPE and NLC India Limited at Neyveli.

SCOPE to hold International Conference of SE Asian Countries on Occupational Safety & Health

SCOPE organized the 6th National Workshop on "Excellence in Occupational Safety & Health at Workplace" in collaboration with Ministry of Labour & Employment and International Labour Organization (ILO). Mrs. M. Sathiyavathy, IAS, Secretary, Ministry of Labour & Employment inaugurated the workshop. Chairman, SCOPE & CMD, MMTC, Mr. Ved Prakash and Dr. U.D. Choubey, Director General, SCOPE also spoke on the occasion.



(From L-R): Dr. U.D. Choubey, DG, SCOPE, Mrs. M. Sathiyavathy, IAS, Secretary, Ministry of Labour & Employment, Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC, Dr. Avneesh Singh, DG, DGFASLI and Mr. B.B.Chakraborty, Program Director at the 6th National Workshop on "Excellence in Occupational Safety & Health at Workplace."

Mr. B.B.Chakraborty, Program Director, elaborated on the Program Objectives & Perspective. Dr. Avneesh Singh, DG, DGFASLI, addressed the Participants in the Inaugural Session and also chaired the Session on Construction Safety Management.

Dr. U.D. Choubey, DG, SCOPE, while welcoming Ms. M. Sathiyavathy, IAS, Secretary to Govt. of India, Ministry of Labour & Employment, highlighted the role of Safety Management in Projects / Construction Activity. He cited the example of Disaster in the Union Carbide, Bhopal, the Loss was 52 Billion Dollars, which is equivalent to assets of 6 Maharatana Companies of public sector. While highlighting the

challenges, he said that capacity building in the area of Safety Management and Equipment safety is of paramount importance. He proposed that in the year 2017 SCOPE has plans to organize an International Conference/ Symposium on OS&H, in which SCOPE could collaborate with the Ministry of Labour & Employment WHO and ILO. He said that 2.3 million Fatal Accidents per year can be prevented by taking effective

actions by the organisations.

Mr. B. B. Chakraborty mentioned that the Special Focus of the event was on Construction/ Project Safety and Issues related to OS&H for Woman Employees. Dr. Avneesh Singh mentioned SCOPE and DGFASLI & ILO are working closely to achieve excellence in OSH Implementation. He emphasized the need for adoption of tools of safety for decent & Safe work environment as the proper OSH implementation reduces



Mrs. M. Sathiyavathy, IAS, Secretary, Ministry of Labour & Employment giving the inaugural address at the National Workshop.

Occupational Illness / Diseases. He mentioned that the situation is dynamic and there is continual improvement in policy implementation. Currently leading companies are giving more emphasis on creation of good OS&H Culture for improving OSH performance for which OSH /Safety campaigns are being organized. Appreciating PSEs, he mentioned that PSEs are well equipped and are model employers. He proposed the idea of data collection from all CPSEs by forming special network of DGFASLI, SCOPE & ILO.

Mr. Ved Prakash, Chairman, SCOPE & CMD MMTC Limited while addressing the seminar emphasized the need for Building Safety Culture at all levels in the organization. He urged all PSEs to nominate large number of participants in such useful Programs. He said that culture is to be developed to educate / train Employees. He also invited suggestions of all for achieving Excellence in SCOPE activities. Chairman, SCOPE said that many Chemicals have been introduced but their hazards are yet

to be tested /known. He advised all present to understand the requirements of achieving excellence in OS&H and everyone should work for it and not depend on chances. He appreciated that both WHO & ILO have joined hands and launched many OS&H initiatives regarding collaboration with Government, Employer & Employees. He highlighted the loss due to major disasters in the recent past and spoke about ILO's Global Initiatives on OS&H to mobilize & expand support to developing countries.

Ms. Sathiyavathy, Secretary, IAS, Ministry of Labour & Employment while inaugurating the workshop complimented SCOPE for enhancing awareness on OS&H, at all levels in CPSEs and covering the topics such as Construction Safety, Ergonomics and Safety Management. She said that the Government Policy on Health, Safety & Environment at Workplace was formulated in 2009. Ms. Sathiyavathy apprised the gathering about separate wing for HSE which has been formed in many leading companies but it has yet to be created

in smaller ones. She mentioned about the loss of GDP of the country due to Occupational Diseases/ Injuries and advised CPSEs to allocate adequate funds to eliminate all types of Hazards to Improve Work environment and to have separate wing to address OS&H Issues. She said that through the existing Rules and Regulations workers in the Industry are well taken care off, but Contractor Workers condition needs to be improved. CPSEs should ensure registration of its contract workers with the State Registration Authority to get benefit from the Welfare measures from the 1 % cess. Ms. Sathiyavathy also advised adequate funding for the Training of Contractor Staff and added that by expanding the role of ESIC unorganized sector employees could also be trained regarding health and safety.

Mr. P. P. Mitra, Former Principal Advisor, Ministry of Labour & Employment dwelt on "Overview of the Vision on Reforms in the area of OS&H". He asked executives to change mindset and listen to the experiences of shop floor employees for necessary improvements. He dealt with details the Legislative policy framework being formulated by the Govt. in consultation with all stakeholders. He particularly emphasized the need of Skill/ Capacity Building at shopfloor level for improving OS&H Performance of the CPSEs. He emphasized the need for Awareness enhancement at individual CPSE level.

Dr. S.Baishya, CMO, OIL deliberated on the study made on Obesity and its impact on the Performance of Employees. Mr. S.R.Krishnan, GM(HSSE),



Mr. Ved Prakash, Chairman, SCOPE & CMD, MMTC, Dr. U.D. Choubey, DG, SCOPE and Dr. Avneesh Singh, DG, DGFASLI addressing the participants at the Workshop.

BPCL, deliberated on the "Contract Management System – Learning from Incidents." Dr. R.K.Elangoval, DDG, DGFASLI made presentation on "Legal Perspectives of Construction Safety." Ms. Linda Skaria, Head HSE, NTPC deliberated on various initiatives taken by NTPC for achieving Excellence in Construction Safety.

Dr. N.A.Siddiqui, Head HSE Dept., University of Petroleum & Energy Studies talked about issues in Ambient Air Quality Monitoring and Health Impacts. Mr. B.B.Chakraborty, Sr. Consultant HSE deliberated on the theme: Transformational Leadership for Achieving Excellence in Safety. Dr. Chandra Tripathi, DGM (MS&OH), CO, GAIL spoke about OH Experiences and Health Index in GAIL. Dr. M. Ahmad, Sr. Consultant (OH) talked about OS&H at Workplace emphasizing on Gender Disparity within Gender Equality. Dr. T. Pachal, AGM(OH), SAIL's Bokaro Steel

Plant Hospital deliberated on 'Efficiency optimization through care of older workers in CPSEs.' Mr. Rahul Sharma, Sr. Manager (HSE), GAIL spoke on 'Approach for Occupational Safety & Health Management for contractor workers.' Dr. R. K. Pradhan, CMO, GAIL dealt with the Occupational Hazards associated with work and ways & means of combating the adverse effect. Mr. S. K. Goyal, Sr. Manager(Safety), NFL spoke about the Safety practices at NFL, Panipat. HSE initiative in ONGC was presented by Mr. N. J. Vijay Prasad, DGM(Production), ONGC. Ms. Shukla Mistry, GM(PJ), IOCL spoke about Women Executives in construction field and women employees at large.

In the concluding session, Mr. B.B.Chakraborty said that excellence in OSH can be achieved by adopting good Management practices and imbibing Leadership qualities. Currently more emphasis is being given for management aspects. He added

that safety for contractor labor is a major issue bothering corporates. Mr.U.K.Dikshit, Adviser (Programs), SCOPE, highlighted the Industry's role both as an Economic and Social entity. Mr. Arun Mittal, Head HSE, OVL quoted the international best practices citing the examples of British Petroleum and Chevron. Dr. Chandra Tripathi, Head OH, GAIL mentioned that we should be alert about the hazards of the surroundings and be aware of Procedure / Systems for effective implementation. Dr. M.Ahmad, Sr. Consultant OH highlighted the role played by OSH network for knowledge enhancement and experience sharing amongst in the CPSEs for achieving excellence in OSH.

The Program was sponsored by BPCL and its contribution was highly appreciated. Mr. A. U. Ghatk, Program Coordinator proposed the Vote of Thanks. The programme was attended by a large number of OSH professionals in Public Sector Enterprises.



SCOPE Program on 'GST All You Wanted to Know'

SCOPE and KGS Advisors jointly organized a program on "GST All You Wanted to Know" on 22nd December 2016 at SCOPE Convention Centre, New Delhi. Dr. U. D. Choubey, DG, SCOPE, Mr. K. G. Somani, FCA Managing Partner, KG Somani & Co., Mr. R. P. Tak, FCA, Partner K. G. Somani & Co addressed the participants in the inaugural session. A large number of Finance Executives from PSEs attended the Seminar.

Dr. U. D. Choubey, DG, SCOPE while addressing the Seminar, pointed out that control of capital in the hands of sovereign power is the best option which will help envisage a welfare state and tax reforms such as the GST will go long way ensuring transparency and further improvements in the tax administration and tax compliances more payee friendly. The current GST will subsume a number of indirect Taxes and will ensure better tax compliance.

Mr. G. Somani, FCA, while speaking on the program perspective went through the entire evolution / history of GST, sharing his perspective on indirect taxes. He further summed up how GST has reached this stage over these years of journey.

Mr. R. P. Tak, FCA, said that GST would have far reaching effects on the economy. It is a destination based tax and one of the greatest fiscal reforms in the history. It is likely to subsume as many as



Dr. U. D. Choubey, DG, SCOPE addressing the program on GST. On dais (L-R): Mr. R. P. Tak, FCA, Partner K. G. Somani & Co., Mr. K. G. Somani, FCA, Managing Partner, KG Somani & Co., and Ms. Tripti Shinghal, FCA, CEO and Managing Director KGS LLP.

seventeen taxes under one tax and would be a game changer, he commented.

Ms. Tripti Shinghal, FCA, CEO and Managing Director KGS LLP, proposed the vote of thanks to all the dignitaries on the dais, speakers, participants and the organisers.

The inaugural session was followed by four technical sessions on four different topics on GST.

The first technical session was addressed by CA S. K. Loonker, Consultant KGS Advisors LLP, who focused on provisional aspects of GST at length and the present and proposed Indirect Taxes Structure with regard to SGST, CGST and IGST with illustrations.

The second technical session was taken by Advocate Garima Sharma, Director - KGS Advisors LLP and CA Puneet Mehra on provisional aspects of GST who dealt with various issues relating to penal provisions and tax credit

under the GST.

The third session was again taken by CA S. K. Loonker on impact of GST on the manufacturing, trading and service sector. How the contracts shall cost and how it was going to affect the infrastructure sector he clarified.

The last session was through a panel discussion comprising of Mr. G. Somani, Mr. R. P. Tak, CA S. K. Loonker, Garima Sharma, CA Puneet Mehra and Ms. Tripti Shinghal, CEO and Managing Director KGS LLP wherein, lot of discussions and interaction on GST were took place.

Mr. B V K K Rao, Advisor (Finance), SCOPE was the program Facilitator and Ms S. B. Mathur Executive Secretary, SCOPE was program coordinator.

CMA Saqib Mehdi, Senior Manager (Finance) SCOPE anchored the event and gave the vote of thanks at the conclusion of the Program. ■■■

SCOPE Programme on “Internal Financial Controls and Its Benefits”

Indian regulations have been modified to reflect the developments in the Western world. Introduction of Internal Financial Controls (IFC) in the Companies Act 2013, reflect the continuation of this trend. According to the Companies Act 2013

In view of the great importance attached to ‘Internal Financial Controls’ under various provisions of the Companies Act 2013, it becomes necessary for Board of Directors (especially the Audit Committee and Independent Directors) and Senior Management Personnel to get acquainted with respect to their enhanced responsibilities regarding IFC. SCOPE organized a two day program on “Internal Financial Controls and Its Benefits” in academic collaboration with the Institute of Chartered Accountants of India (Committee on Public Finance & Government Accounting) on 17th & 18th November, 2016 at SCOPE Convention Centre, New Delhi. Dr U. D. Choubey Director General SCOPE in his welcome address during the inaugural session of the program, said the coming into effect of the Companies Act 2013, has in many ways raised the bar for Corporate Governance. Indian regulations have been modified to reflect the developments in the Western world. Introduction of Internal Financial Controls (IFC) in the Companies Act 2013, reflect the continuation of this trend. He said that this concept came into



On the dais (L-R): CA Parveen Kumar, Partner and National Head, Assurance Division, ASA Associates, Dr. U. D. Choubey, DG, SCOPE, CA Prafulla Preme Sukh Chahajed, Chairman, Committee on Public Finance & Government Accounting, ICAI and Mr. P.M. Chandriah, MD, Bengal Chemicals Pharmaceuticals Ltd. during the inaugural session of the program.

limelight after Enron fiasco when Sarbans Oxley Act came into play in America. The focus was on fixing responsibility and creating documentation leading to Higher Board Responsibilities. In India, especially Public sector companies, we have best internal control mechanisms. Every aspect will have maker, checker and different people will be involved in decision making and approvals. Mr. P.M. Chandriah, Managing Director, Bengal Chemicals Pharmaceuticals Limited and CA Prafulla Preme Sukh Chahajed, Chairman, Committee on Public Finance & Government Accounting, Institute of Chartered Accountants of India, were the other dignitaries who addressed the participants in the inaugural session. This was followed by three technical sessions on the first day and another three on the second day.

CA Parveen Kumar, Partner and National Head of Assurance Division ASA Associates, CA Jai Bhushan Associate Director,

Internal Audit, Protiviti (Gurgaon NCR) India Office, CA Amarjit Chopra, Former President of the Institute of Chartered Accountants of India, CA Anil Bhandari, Central Council Member and Vice-Chairman Internal Audit Standards Board, CA Mutrtuza Kachwala currently, Managing Director with Protiviti and CA Arun Garg, former Executive Director, Indian Oil Limited constituted the distinguished faculty in the program.

The participants in the program, which included Directors (Finance) and Executive Directors (Finance) appreciated the content and presentations made.

Mr. B.V.K.K. Rao, Advisor (Finance), SCOPE and Dr. Nikhil Saket, Secretary, Committee on Public Finance and Government Accounting, Institute of Chartered Accountants of India were the program Coordinators.

CMA Saqib Mehdi, Senior Manager (Finance) SCOPE, proposed vote of thanks at the conclusion of the two day program.

Conference Facilities at SCOPE Convention Centre

The centrally air-conditioned SCOPE Convention Centre at SCOPE Complex, Lodhi Road, New Delhi provides excellent conference facilities to PSEs, Govt. Departments, Autonomous Bodies, Institutions/NGOs etc. The Auditorium and other Conference Halls are equipped with projector and screen facilities, sound & light control room with recording & P.A. facility, etc. Details of the capacity of the Auditorium and other Halls, which are available on nominal tariff are given below.

Auditorium



The Auditorium having capacity of 310 persons (300 Chairs + 10 Nos. Chairs at stage) capacity equipped with mikes on dias and podium on stage.

Mirza Ghalib Chamber



The chamber having capacity of 108 persons (102 Nos. Chairs + 6 Nos. Chairs on Dias) equipped with mikes on table, dias and podium.

Tagore Chamber



The chamber having capacity of 92 persons (86 Nos. Chairs + 6 Nos. Chairs on Dias) equipped with mikes on dias, tables & podium.

Bhabha Chamber



The chamber having capacity of 44 persons (24 Nos. Chairs on round table and 20 Nos. Chairs on sides) equipped with mikes on dias, tables & podium.

Fazal Chamber



The chamber having capacity of 25 persons (15 Nos. Chairs on round table and 10 Nos. Chairs on sides) capacity with board room type sitting arrangement equipped with mikes.

Business Centre



The Business Centre having capacity of 7 persons equipped with multi point Video Conferencing System (1+3), at three locations at a time for National & International both.

Banquet Hall



The banquet hall having capacity of 500 Persons for the purpose of lunch & dinner. Sitting arrangement could be done for 90 persons.

Annexe I



The Annexe-I having capacity of 25 Persons.

Annexe II



The Annexe-II having capacity of 25 Persons.

Tansen Chamber at UB



The Tansen Chamber having capacity of 50 persons having stage and podium.

Amir Khusro Chamber at UB



The Amir Khusro Chamber having capacity of 50 persons having facility of stage and podium.

For Booking & Tariff details please contact

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STANDING CONFERENCE OF PUBLIC ENTERPRISES

1st Floor, Core No. 8, SCOPE Complex, Lodhi Road, New Delhi - 110003 Phone: 011-24311747, 011-24360101 • Fax: 011-24361371

Conference Facilities at SCOPE Minar Convention Centre

SCOPE Minar, an architecturally conceived in the form of two high rise curvilinear tower blocks sitting on a four storey circular Podium Block, is strategically located in Laxmi Nagar District Centre, Delhi -110092 and housing around 40 PSEs of repute. It is one of the known buildings of East Delhi. It has a very size Reception Foyer giving ambience look inside the building. There is a green environment all around the SCOPE Minar with large size planters all around. The building is also having state of art Convention Centre, comprising four halls i.e.

Convention Hall



A large sized Convention hall having sitting capacity of 300 delegates. Various seminars, training programmes, presentations, get to gather etc. are conducted in Convention Hall. It provides ambient and peaceful environment for the programmes.

VIP Lounge



VIP Lounge having sitting capacity of 60 delegates. The executives and higher level officers, Directors, CMDs can use it as waiting lounge also.

There is a wide space for vehicle parking that cater for a capacity of 700 cars, including the newly built good quality Banquet Hall wherein 300 delegates can comfortably dine at a time, makes it special to deliver an all-round conducive meeting environment.

Meeting Hall



Meeting hall having "U" shaped table, with a meeting capacity of 65 delegates. Most widely used for small size meetings and training programmes, group discussion, power point presentations etc.

SCOPE Academy of Public Sector Enterprises



SCOPE Academy of Public Sector Enterprises (APSE) conducts induction level programmes for PSEs executives. It has three training halls, one with capacity of 40 persons and two halls with capacity of 30 persons each for training purpose.

For Booking & Tariff details please contact

Mr. M. L. Maurya, GM (Tech.) (M) 9313375238 **and Mr. Shubh Ratna**, DCE(C), SCOPE Minar
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Awards & Accolades to PSEs

REIL honored by Rajasthan Energy Conservation Award - 2016

Rajasthan Electronics and Instruments Limited was honored with First “Rajasthan Energy Conservation Award- 2016” during the award distribution ceremony held, on the occasion of National Energy Conservation Day, at Indralok Auditorium, Jaipur. Mr. Sanjay Malhotra, Principal Secretary, Energy Department, Government of Rajasthan presented the award in the presence of Mr. B. K. Dosi, Managing Director, RREC, Mr. A. K. Jain, Managing Director, REIL and Mr. N. K. Kothari, Managing Director, RUVNL.



Mr. Sanjay Malhotra, Principal Secretary, Energy Department, Government of Rajasthan presenting the Rajasthan Energy Conservation Award to REIL.

REIL was given this award by Rajasthan Renewable Energy Corporation Limited, in Small Scale Industry-General Category, for its efficient energy management practices.

HPCL wins “Platts Global Energy Award 2016”

HPCL won the “Platts Global Energy Award 2016” for Corporate Social Responsibility. In a ceremony held at New York recently the award was received by ED, Corporate, Strategy & Planning and Business Development, Mr. Rakesh Misri and ED, Finance



Mr. Rakesh Misri, ED, Corporate Strategy & Planning and Business Development and Ms. Sonal Desai, ED, Finance (Refineries), HPCL receiving the award.

(Refineries), Ms. Sonal Desai. Hosted by S&P Global Platts, the leading independent provider of information and benchmark prices for the commodities and energy markets, the annual event honours organizations and individuals in the energy industry dedicated to achieving excellence.

KAPL awarded State Export Excellence as Best Manufacturer Export Award

KAPL was awarded State Export Excellence Award for the year 2014-15 in the category “Best Manufacturer Export Award - Medium/ Large” Drugs & Pharmaceuticals by Government of Karnataka. The award function was held at

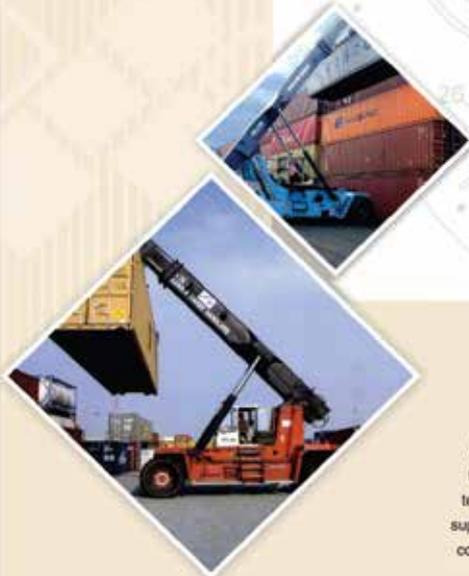
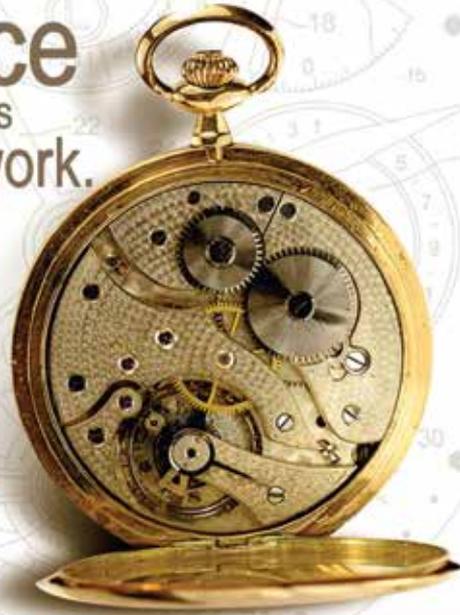


Mr. Jagdeesh C. Hiremath, Company Secretary & GM, KAPL receiving the award from Mr. Siddaramaiah, CM, Karnataka.



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Bangalore. The award was received by Mr. Jagadeesh C. Hiremath, Company Secretary & General Manager - Administration, KAPL.

IREDA CMD gets CBIP Award 2017

Mr. K. S. Popli, CMD, Indian Renewable Energy Development Agency Ltd. was conferred with 'CBIP



Minister of State for Water Resources, River Development & Ganga Rejuvenation Dr. Sanjeev Kumar Balyan presenting the 'CBIP Award 2017' to Mr. K. S. Popli, CMD, IREDA.

Award 2017' for his outstanding contribution in Development of Renewable Energy Sector. Minister of State for Water Resources, River Development & Ganga Rejuvenation, Dr. Sanjeev Kumar Balyan presented the CBIP Award to Mr. K. S. Popli, on the occasion of CBIP Day Celebrations 2017 recently at SCOPE Convention Centre, New Delhi.

International Leadership Innovation Excellence Award presented to HSCL



Mr. Satyajit Kar, Head (Project), HSCL (Karnataka) receiving the award on behalf of Mr. Moyukh Bhaduri, CMD, HSCL.

Mr. Moyukh Bhaduri, CMD, Hindustan Steelworks Construction Limited (HSCL) was conferred with the "International Leadership Innovation Excellence Award" by the Institute of Economic Studies (IES), at Bangalore, in presence of Mr. Basavaraja Horate, Ex-Minister for Education, Mr. Rajashekar, Former Minister of State for Planning along with other senior officials. HSCL was awarded with the Gold Medal during the occasion. The awards were collected by Mr. Satyajit Kar, Head (Project) / HSCL, Karnataka.

MCL wins Skoch Award

Mahanadi Coalfields Limited (MCL) received the "SKOCH BLUE ECONOMY AWARD 2016" at the 46th Skoch Summit held at New Delhi recently. Besides, the flagship Coal India subsidiary operating in state of Odisha won two 'Skoch Order of Merit' for "CSR Initiatives of MCL" and "Initiative of Eco-friendly Mining with Surface Miner".



Dr. Shambhu Jha, Sr. Manager (Mining), presenting the award to the CMD in the presence of Mr L. N. Mishra, Director (Personnel) and Mr O. P. Singh, Director (Technical/P&P).

MCL's CMD, Mr A. K. Jha congratulated all members of the company for achieving distinction in fields of CSR and environment-friendly operations. Dr. Shambhu Jha, Sr. Manager (Mining), presented awards to the CMD in the presence of Mr L. N. Mishra, Director (Personnel) and Mr O. P. Singh, Director (Technical/P&P). A large number of government organisations had participated in the SKOCH Awards process.

CEO, Petronet LNG Ltd. honoured by Indian Army

Indian Army honoured and facilitated Mr. Prabhat

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- Watershed Management.
- Development of School Infrastructure.
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- Distribution of aids & appliances to people with disabilities.
- Health Check-up Camps at various locations.
- Supply of Ambulances & Equipments to Hospitals.
- Construction of "Vishram Sadan" at AIIMS, New Delhi



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MD & CEO Mr. Prabhat Singh, PLL being facilitated by the Indian Army.

Singh MD & CEO of Petronet LNG at Baramullah, Kashmir for supporting the cause of empowering the youth of the Kashmir valley towards Nation Building. Mr. Prabhat Singh while interacting with senior officials of Dagger Division (Indian Army) and Students of Petronet Kashmir Super-40 appreciated the potential of the Kashmiri youth and reiterated his commitment of ensuring their bright future and employment opportunities.

PLL has collaborated with Indian Army and CSRL for this programme which will provide an opportunity to the students of J&K, aiming for admission in reputed Engineering Institution in the years to come. Mr. S. K. Shahi, Director CSRL and Mr. Manoj Pawa, PLL Vice President (CA&BD) was also present on this occasion.

BHEL wins the EEPC Export Excellence Award

BHEL won the EEPC INDIA National Award for Export Excellence for the year 2014-15 as 'Star



Mr. Atul Sobti, CMD, BHEL receiving the award from Mr. Suresh Prabhu, Union Minister of Railways.

Performer - Project Exports (Large Enterprise)'. The award was received by Mr. Atul Sobti, CMD, BHEL from Mr. Suresh Prabhu, Union Minister of Railways. Instituted by EEPC, the award is given annually to Top Exporters for excellence in physical exports. Significantly, BHEL has been winning this award consecutively for last 26 years.

Oil India Limited bags the Jury choice award for Strategic Investment

Oil India Limited (OIL) won the Governance Now PSU Award-2016 under the category of Jury Choice for Strategic Investment at the award ceremony held in New Delhi, recently.



Mr. Harish Madhav, General Manager (Finance & Accounts), OIL receiving the Award from Mr. Ram Vilas Paswan, Minister of Consumer Affairs, Food and Public Distribution and Mr. Babul Supriyo, MoS, Heavy Industries and Public Enterprises in the presence of Jitendra Kapoor, actor and other dignitaries.

The award was presented by Mr. Ram Vilas Paswan, Minister of Consumer Affairs, Food and Public Distribution and Mr. Babul Supriyo, Minister of State for Heavy Industries and Public Enterprises to Mr. Harish Madhav, General Manager (Finance & Accounts), OIL in the presence of Bollywood actor Mr. Jitendra Kapoor and other dignitaries.

DGM (PR), PFC Receives 'Best UT Nodal Official' Award

Mr. Piyush Goyal, Union Minister of State (I/C) for Power, Coal, New & Renewable Energy and Mines and Mr. P. K. Pujari, Secretary (Power) gave the First

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Mr. S.S. Rao, DGM (PR), PFC receiving the award from Mr. Piyush Goyal, MoS (I/C) for Power, Coal, New & Renewable Energy and Mines and Mr. P. K. Pujari, Secretary, Power.

Prize in “Union Territories Nodal Official” to Mr. S. S. Rao, DGM (PR), PFC. This Award was given in appreciation of the achievement in Painting Competition on Energy Conservation by school children in Union territories.

NMDC wins Strategic Performance Award

NMDC Limited won Governance Now PSU Award 2016 for strategic performance under financial



Mr. Sandeep Tula, Director (Personnel), NMDC receiving the award from Mr. Ram Vilas Paswan, Union Minister of Consumer Affairs, Food & Public Distribution.

category. The Award was received by Mr. Sandeep Tula, Director (Personnel) from Mr. Ram Vilas Paswan, Union Minister of Consumer Affairs, Food and Public Distribution in a program organized at New Delhi. Mr. Jitendra Kapoor, Actor and Ms. Usha Singh, GM (BD & CP), NMDC Ltd. were also present on this occasion.

The company was selected based on strategic performance evaluation and Profit after tax/ Sales and excellent performance in EBIDTA.

NRL wins two awards for Asset Utilization & Strategic Performance

NRL bagged two awards under the ‘Asset Utilization’ and ‘Strategic Performance’ categories at the 4th edition of Governance Now PSU Awards 2016.



Director Finance NRL Mr. S. K. Barua (left) receiving the Governance Now Award from Mr. Ram Vilas Paswan, Union Minister of Consumer Affairs, Food and Public Distribution.

The awards were presented to NRL Director (Finance) Mr. S. K. Barua by Mr. Ram Vilas Paswan, Union Minister of Consumer Affairs, Food and Public Distribution in the presence of Mr. Jeetendra Kapoor, at New Delhi recently.

BEML CMD conferred with Fellowship Award

Mr. Deepak Kumar Hota, CMD, BEML was conferred with CEPM Fellowship Award-2016 at the



Mr. Amitabh Kant, CEO, NITI Aayog presenting the Fellowship Award to Mr. Deepak Kumar Hota, CMD, BEML.

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24th Global Symposium organised by Centre for Excellence in Project Management. At the function held at Delhi, the Award was presented to Mr. Hota by Mr. Amitabh Kant, CEO, NITI Aayog. The Award was bestowed on Mr. Hota in recognition of his commitment in transforming and driving organizational capabilities through human centric approach.

BEML bags Export Award

BEML won the STAR PERFORMER AWARD in the Export category for the year 2014-15.



Mr. Suresh Prabhu, Union Minister for Railways presenting the Star Performer Award to Mr. Deepak Kumar Hota, CMD, BEML.

At a function held at Delhi, Mr. Deepak Kumar Hota, CMD received the Award on behalf of the Company from Mr. Suresh Prabhu, Minister of Railways. Ms. Rita A Teatota, Secretary (Commerce), Govt. of India was also present on the occasion. The event was organised by EEPIC India (Formerly Engineering Exports Promotion Council).

REC bags Two PSU Awards

Rural Electrification Corporation (REC) won two awards in the areas of 'Asset Utilization' and 'Consistent Growth & Adaptation' at the 4th Governance Now PSU Awards 2016. The award was presented by Mr. Ram Villas Paswan, Union Minister for Consumer Affairs, Food and Public Distribution to Executive Director (HR) Ms. Kalpana Kaul and General Manager (Finance) Mr. Ajoy Choudhary from REC.

The award function witnessed the presence of Mr. Babul Supriyo, MoS. Heavy Industries & Public



Ms. Kalpana Kaul, ED (HR) and Mr. Ajoy Choudhary, GM (Fin.) REC received the award from Mr. Ram Vilas Paswan, Union Minister for Consumer Affairs Food & Public distribution.

Enterprises, Mr. Jeetendra Kapoor, Actor and dignitaries from several Public Sector Organizations.

REC wins CBIP Award for Best Power Financing Company

REC was conferred with "CBIP Award for Best Power Financing Company" recently at CBIP Day Celebrations 2017 organized by Central Board of Irrigation & Power (CBIP) at SCOPE Convention Centre, New Delhi. The award was received by Mr. Sanjeev Kumar Gupta, Director (Technical),



Mr. Sanjeev Kumar Gupta, Director (Technical), REC receiving the Award from Dr. Sanjeev Kumar Balyan, Minister, of Water Resources, River Development & Ganga Rejuvenation.

REC from Dr. Sanjeev Kumar Balyan, Minister of Water Resources, River Development & Ganga Rejuvenation. The ceremony was attended by various dignitaries of Public and Private Sector.

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ITDC bags the Award for Best PSU - CSR Initiative at Qutab Minar



Mr. Umang Narula, CMD, ITDC and Mr. Piyush Tiwari, Director (Commercial) receiving the award from Mr. Ram Vilas Paswan, Union Minister of Consumer Affairs.

India Tourism Development Corporation (ITDC) was bestowed with “Best PSU award for CSR Initiative” in Miniratna Non Financial Category at the 4th Edition of Governance Now PSU Awards 2016. The award was presented to ITDC in New Delhi, where Mr. Umang Narula, CMD, ITDC and Mr. Piyush Tiwari, Director Commercial & Marketing, ITDC received the award from Mr. Ram Vilas Paswan, Union Minister of Food and Public Distribution and actor Jeetendra.

ITDC adopted Qutub Minar as a part of its CSR initiative under the aegis of Government of India’s Swachh Bharat Abhiyan and organizes regular cleanliness drives at the monument’s premises.



CSL completes construction of 20 Fast Patrol Vessel

Cochin Shipyard Limited completed construction of 20 Fast Patrol Vessel series for the Indian Coast Guard.

CSL was awarded the work of constructing 20 Fast Patrol Vessels for the Indian Coast Guard. CSL delivered the first vessel on 25th September 2013 and subsequently delivered vessels in about two months interval. CSL started delivering vessels ahead of schedule from the 13th vessel onwards. ICGS AYUSH, the 20th Fast Patrol Vessel, the last in the series (CSL Yard No BY 520) was delivered recently, three months ahead of schedule. The ceremony of first reading of D448 of the ship was held recently at the CSL. The protocol of delivery and acceptance was signed between Mr. Suresh Babu N V, Director (Operations),



Mr. Suresh Babu N V, Director (Operations), CSL and Commanding Officer (Designate) of the vessel Commandant (JG) Asheesh Sharma exchanging the protocol of delivery and acceptance.

CSL and Commanding Officer (Designate) of the vessel and Commandant (JG) Asheesh Sharma, in the presence of Mr. Madhu S Nair, Chairman and

Managing Director, DIG, Arun Vastav, PD (Mat), CGHQ, DIG G Devanand, CGRPS (KOC) and other senior officers of both CSL and Coast Guard. ■■■

Prime Minister presents cheque to CMD, BHEL

Prime Minister, Mr. Narendra Modi, presented a cheque of the highest amount of Rs.1.79 Cr. to Mr. Atul Sobti, CMD, BHEL, at the Kaushal Mahotsava in Kanpur, as a mark of appreciation for BHEL's active participation by engaging a large number of apprentices across the country under the National Apprenticeship Promotion Scheme (NAPS), representing the organization's contribution to the 'Skill India' initiative of the Prime Minister. The Ministry of Skill Development and Entrepreneurship invited the heads of top organisations imparting trade apprenticeship training to receive cheques from Prime Minister as a partial reimbursement of the stipend paid and as a token of appreciation for their excellent work in this area.



Prime Minister, Mr. Narendra Modi presenting the cheque to Mr. Atul Sobti, CMD, BHEL.

BHEL Day 2017 Celebrated with fervour

BHEL Day 2017 was celebrated with great fervour in New Delhi recently. Mr. Anant Geete, Union Minister of Heavy Industries & Public Enterprises graced the occasion as the Chief Guest and Mr. Babul Supriyo, Minister of State for Heavy Industries & Public Enterprises was the Guest of Honour.

Mr. Girish Shankar, Secretary, Department of Heavy Industry; Mr. Atul Sobti, CMD, BHEL; Directors on the Board of BHEL, and senior officials of the Department of Heavy Industry were also present on the occasion. Employees of BHEL's Corporate

Office and all NCR-based divisions participated in the celebrations that included a cultural program produced in-house by BHEL employees.

Union Minister of Heavy Industries and Public Enterprises, Mr. Anant Geete visits BHEL, Hyderabad

The Union Minister of Heavy Industries and Public Enterprises, Mr. Anant Geete visited Bharat Heavy Electricals Limited (BHEL)'s manufacturing unit in Hyderabad. Mr. Atul Sobti, CMD, BHEL, welcomed the Minister and escorted him around the plant. Mr. Girish Shankar, Secretary, Department of Heavy Industry (DHI) and senior officials of BHEL and DHI were also present on the occasion.



Mr. Anant Geete, Union Minister, HI&PE at the BHEL's manufacturing unit at Hyderabad.

BHEL commissions one more 600 MW Thermal Unit in Telangana

Bharat Heavy Electricals Limited (BHEL) has successfully commissioned another 600 MW coal-based thermal power plant in the state of Telangana. The unit has been commissioned at the 2 x 600 MW Singareni Thermal Power Project (TPP) located in Adilabad district in Telangana. The project has been developed by Singareni Collieries Company Limited (SCCL), India's second largest coal mining company. This is the second 600 MW unit commissioned by BHEL at Singareni TPP. The first unit of the project was earlier commissioned in March, 2016. ■■■



PM Inaugurates Trade Facilitation Centre at Varanasi Implemented by NBCC



Prime Minister, Mr. Narendra Modi addressing the Trade Facilitation Centre at Varanasi.

Prime Minister Mr. Narendra Modi, inaugurated the first phase of Trade Facilitation Centre & Crafts Museum at Varanasi (U.P.) recently. Implemented by NBCC, the centre is a vision project of the Government of India to promote the handloom, handicraft industry and silk products of Varanasi and neighbouring areas. Dr. Mahendra Nath Pandey, MoS (HRD), Mr. Brahma Shanker Tripathy, Minister of Khadi & Village Industry, Govt of Uttar Pradesh, Mr. Ram Charitra Nishad, MP, Ms. Rashmi Verma, Secretary, Ministry of Textiles and Dr. Anoop Kumar Mittal, CMD, NBCC were among the guests who graced the occasion.



New Civil Air Terminal at Bathinda Airport



Mr. P. Ashok Gajapathi Raju, Union Minister of Civil Aviation with Ms. Harsimrat Kaur Badal, Union Minister of Food Processing Industries, Sardar Sukhbir Singh Badal, Deputy Chief Minister, Punjab, Mr. Jayant Sinha, MoS, Civil Aviation, Mr. Vijay Sampla, MoS, Social Justice and Empowerment, Dr. Guruprasad Mohapatra, Chairman, AAI, and Mr. Ashwani Lohani, CMD, Air India at the inauguration of new civil air terminal at Bathinda Airport.

Ashwani Lohani, CMD, Air India and other dignitaries. Speaking on the occasion, Union Minister of Civil Aviation Mr. Raju said that the new terminal and the flight connectivity will not only boost passenger travel but also be a multiplier for the overall economic growth of the region. These new facilities are a fitting tribute to the indomitable Punjabi spirit, he added.

The New Civil Air Terminal is spread in the area of 1200 sq. mtrs. The terminal has been constructed at a total cost of Rs. 25 cr. The Terminal is equipped to handle 100 passengers (50 Departure + 50 Arrival) with modern passenger facilities such as two Check-in-counters, one Security Check X-Ray Machine, one Arrival Baggage Conveyor Belt, one Reserved VIP Lounge with Car Parking and Apron for two ATR-72-600 type aircraft.



The New Civil Air Terminal at Bathinda Airport was dedicated to the Nation recently by Mr. P. Ashok Gajapathi Raju, Union Minister of Civil Aviation in the presence of Ms. Harsimrat Kaur Badal, Union Minister of Food Processing

Industries, Sardar Sukhbir Singh Badal, Deputy Chief Minister of Punjab, Mr. Jayant Sinha, Union Minister of State for Civil Aviation, Mr. Vijay Sampla, Union Minister of State for Social Justice and Empowerment, Dr. Guruprasad Mohapatra, Chairman, AAI, Mr.

Steel Secretary, inaugurates 5 MW Solar Power Plant

Dr. Aruna Sharma, Secretary, Ministry of Steel inaugurated the 5 MW Solar Plant installed by RINL at a cost of Rs. 33 cr. in the presence of Mr. P Madhusudan, CMD, RINL, Ms. Urvilla Khati, Joint Secretary, Ministry of Steel and Directors of RINL recently. RINL has joined other major corporates in harnessing solar power with this 5 MW Ground Waste Solar Power Plant in its premises. Dr. Aruna Sharma commended RINL management for foraying into Solar Energy in tune with the government thrust to tap renewable energy sources. She said that the role of renewable energy has been assuming increasing



Dr Aruna Sharma, Steel Secretary inaugurating the 5 MW Solar Plant in VSP (To her right) Mr. P Madhusudan, CMD, RINL, Ms. Urvilla Khati, Joint Secretary (Steel), RINL Directors and union leaders are seen.

significance in recent times with the growing concern for the country's energy security.

Mr. P. C. Mohapatra, Director (Projects), Mr. D. N. Rao,

Director (Operations), Mr. P. Raychaudhury, Director (Commercial), Mr. B. Siddhartha Kumar, IFS, CVO were present on the occasion. Later, Dr. Aruna Sharma, Smt Urvilla Khati visited new production units like Blast Furnace-3, Steel Melt Shop-2, Rolling Mills, Captive Power Plant-2 etc. She also visited "Steel Museum", located in the Technical Training Institute.

Ms. Aruna Sharma reviewed the performance of the Company in which Mr. P Madhusudan, CMD, CVO and Directors participated. Later, she interacted with the representatives of Steel Executive Association, trade unions. SC&ST Association and WIPS. ■■■



Dr Aruna Sharma, Steel Secretary, Ms. Urvilla Khati, Joint Secretary, Steel, Mr. P Madhusudan, CMD, RINL with women employees at Coke Oven battery.



THDCIL & Ministry of Coal: **Allotment Agreement for Amelia Coal Mine**

Mr. D. V. Singh, CMD, THDCIL and Mr. Vivek Bhardwaj, Joint Secretary, Ministry of Coal, signed the Allotment Agreement for Amelia Coal Mine recently. Mr. U. C. Kannaujia, GM(SP) and Mr. Mukul Sharma, Sr. Manager (Thermal Design), THDC NCR Office Kaushambi were also present on the occasion with senior officials of THDCIL and Ministry of Coal.

The Ministry of Coal in August 2016 allotted Amelia Coal Mine under Rule 11(10) of the Coal Mines (Special Provisions) Rules, 2014 in public interest to THDCIL in order to meet the requirement of its Khurja STPP (2X660 MW).

The Amelia Coal Mine located in Singrauli District of Madhya Pradesh, is spread on around 1619.10 hectare of lease land excluding 240.70 hectare land outside lease area. The total Geological Coal reserve shall be

393.59 million tonnes. Rated capacity of the Amelia Coal mine is 8.4 million tonnes per annum (MTPA) of Coal Production.

The Khurja STPP shall facilitate overall development of the area, create job opportunities for the local people and improve the deficit power scenario of Uttar Pradesh. Besides that, all major clearances viz. Land availability, Water commitment, Airport Authority Clearance, Re-routing of NH-91, Railway Siding, etc. for the Project are already in place.

THDCIL is one of the premier hydro power generators in the country with installed capacity of 1450 MW with commissioning of Tehri Dam & HPP (1000MW), Koteshwar HEP (400MW) and 50MW Wind Power Project at Patan Gujarat to its credit and is bestowed with 'Mini Ratna' Category -I & Schedule 'A' Status.

THDCIL inks Power Purchase Agreement (PPA) with GUVNL

THDC India Limited (THDCIL) entered into another Power Purchase Agreement (PPA) for a wind power project of 63 MW with Gujarat Urja Vikas Nigam Limited (GUVNL) at Vadodara recently. The agreement was signed by Mr. Ajay Mathur, General Manager (Commercial), on behalf of the THDCIL and Ms. Sailaja Vachhrajani GM (IPP), on behalf of the GUVNL.

Mr. Rajiv Dhall, DGM, SQ Ahmed, Company Secretary from



Mr. D.V. Singh, CMD, THDCIL and Mr. Vivek Bhardwaj, Joint Secretary, Ministry of Coal exchanging the MoU documents.

THDCIL and Mr. K. P. Jangid, General Manager (Commerce) Mr. A. N. Khambhatta, Superintending Engineer (Commercial), Mr. VT Patel, Deputy Engineer (Commercial), from the GUVNL were also present on this occasion.

THDCIL forayed into wind power as diversification measure in June 2016 by successful commissioning of 50 MW Wind Power Project in Patan, Gujarat, after installing Tehri HPP of 1000 MW and Koteshwar HEP of 400 MW in the Garhwal Himalayas.

THDCIL, has further expanded in Gujarat with its 63 MW wind power project in Dwarka district taking the total Wind Capacity to 113 MW. THDCIL is shortly commencing generation from 30 Wind Turbine Generators (each of 2.1 MW) totalling 63 MW. This plant shall generate to approx. 135 Million Units (MUs) of electrical energy annually and strengthen the western grid. ■■■■



Mr. Ajay Mathur, GM (commercial), THDCIL and Ms. Sailaja Vachhrajani, GM (IPP), GUVNL exchanging MoU documents.

NLCIL Observes **National Energy Conservation Day -2016**



Mr. Subir Das, Director (Mines) NLCIL flagging off the rally organized by the students of Kendriya Vidyalaya, Neyveli in commemoration of the National Energy Conservation Week. Also seen are, Mr. P. SelvaKumar, Director (Planning & Projects) Mr. P. Dharmalingam and Senior Officials.

NLC India Limited observed the National Energy Conservation Day as part of the National Energy Conservation Week -2016 celebrations at the Lignite Hall, Neyveli, recently. Mr. P.Dharmalingam, Director, Energy Management, National Productive Council, and

Chennai participated as Guest of honour. Mr. Subir Das, Director (Mines) NLCIL, the Chief Guest in his inaugural address said NLCIL management is developing technologies for improving efficiency and reducing costs. Because of taking important measures in increasing energy

efficiency, the organization has saved Rs. 6.5 Cr. worth diesel and saved 23 Crore Units of electricity consumption without effecting normal in production. He said Energy Conservation is the only way to avoid economic and ecological damage.

Mr. P. Dharmalingam in his Key-note address, insisted on how as part of industrial revolution, humans have been adding more carbon dioxide to the atmosphere than plants can take up.

Functional Director Mr. P. Selva Kumar Director (Planning & Projects) informed that NLCIL management is going to introduce a new system called Dynamic Loading System in Conveyors to reduce lot of energy input. After the programme Mr. Subir Das flagged off a rally of Kendriya Vidyalaya school children to create awareness among public about the need of energy conservation. ■■■

Implementation of **ILS CAT-III B** at **Jaipur & Lucknow Airports**

Airports Authority of India (AAI) has implemented Instrument Landing System (ILS) – Category - III B at its Jaipur and Lucknow Airports with effect from 8th December, 2016.

The implementation of above

system at these airports has made them equal to IGI Airport, Delhi in terms of standards of landing facilities for aircraft. This system is capable of guiding the pilot of an arriving aircraft to land in low visibility / foggy conditions until the

runway visual range (visibility on runway in the direction of landing) does not reduce below 50 meters.

The above work was completed by AAI in less than two years' time with minimum disruption to flights at these major airports. ■■■



Union Steel Minister visits SAIL Units at Ranchi



Steel Minister Mr. Birendra Singh inaugurating the Pelletization Laboratory.

Steel Minister Mr. Birendra Singh visited SAIL Units of Ranchi and urged them to register global presence in terms of increasing exports of SAIL steel by producing more and more special steel at optimum cost. He also emphasised the need of presence as a world class Management Institution as well as high Safety standards. Minister also inaugurated a pelletisation plant at Research & Development Centre for Iron & Steel (RDCIS), SAIL in Ranchi. On this occasion, Chairman, SAIL Mr. P.K.Singh, Director(Technical) Mr. Raman, Executive Director (RDCIS), Mr. B.N. Thakur, Executive Director(CET), Mr. P. Saidev, Executive Director(SSO), Mr. R.K. Tripathy, Executive Director(MTI), Mrs. Kamakshi Raman and other senior official of SAIL Ranchi Units were also present. He appreciated the innovations by SAIL R&D but urged for intensive marketing and thereby commercialization of

product and process innovations. The Engineering and Technology Unit at Ranchi CET apprised that they have implemented hitherto single largest package in the history of SAIL at Hot Strip Mill, Rourkela. The challenge further lied in continued interventions till production reached to capacity levels.

After inauguration of the system, Steel Minister advised to utilize mineral resources of low grade iron ore and also expressed his views to make great use of this equipment to maximum level for national interest. Apart from this equipment, operation of ball mill, disc palletizer, Blaine apparatus and cold compressive strength equipment has also been witnessed.

SAIL posts 16 percent growth in sales during April-December '16

SAIL posted a solid sales growth of 16 percent during the April – December 2016 period over the corresponding period last year.

The improved domestic sales as well as expanding exports, with the latter recording a remarkable rise of around more than double during this period, contributed to the improved sales numbers. The company's exports rise is in keeping pace with the SAIL's focus to expand its global foot prints.

- SAIL posts 16 % growth in sales during April-December 2016
- Domestic sales along with exports contribute to sales growth
- 15 % growth recorded in Saleable steel production during April-December 2016.

At the production front, SAIL produced 10.18 Million Tonnes (MT) of saleable steel during Apr-Dec' 16 period, of which 1.18 MT alone came in December'16, registering a 15 percent growth in saleable steel production over Apr-Dec'15. With enhanced performance from the modernized units, the techno-economic parameters also exhibited improvement during the first nine months of FY 16-17 (BF productivity: 7 percent and Coke Rate: 3 percent improvement). This is conforming to the company's constant endeavors to attain most effective utilization of all resources as SAIL recognizes that its business activities have direct and indirect impact on the society. The company realizes that water is a vital resource and should be judiciously utilized. In this endeavor, SAIL is observing January 2017 as 'Water Conservation Month' across all its Plants and Units with a target to reduce water consumption by 25 percent. ■■■

NTPC and NALCO to form **JV for Power Generation**



Mr. Piyush Goyal, Minister of State (I/C) Power, Coal, NRE and Mines, Mr. Dharmendra Pradhan, Minister Of State (I/C) Petroleum and Natural Gas, Mr. Tathagata Satpathy, Lok Sabha MP from Dhenkanal, Mr. Prafulla Kumar Malik, Minister of Labour, Employees State Insurance, Steel and Mines, Govt. of Odisha, Mr. Gurdeep Singh, CMD, NTPC, Dr. T. K. Chand, CMD, NALCO and other dignitaries during the signing of MoU.

NTPC Limited and National Aluminium Company Limited (NALCO) signed an Memorandum of Understanding (MoU) recently in New Delhi in the presence of Mr. Piyush Goyal, Minister of State (I/C) Power, Coal, NRE and Mines, Mr. Dharmendra Pradhan, Minister of State (I/C) Petroleum And Natural Gas, Mr. Tathagata Satpathy, Lok Sabha MP from Dhenkanal, Mr. Prafulla Kumar Malik, Minister of Labour, Employees State Insurance Steel and Mines, Govt. of Odisha, Mr. Gurdeep Singh, CMD, NTPC, Dr. T. K. Chand, CMD, NALCO and other dignitaries.

The MoU was signed by Mr. B.K. Thakur Director (HR), NALCO and Mr. K. Biswal Director (Finance), NTPC. The Joint Venture Company shall establish a 2400 MW (3X 800 MW) coal based power project at Gajmara, Dhenkanal in Odisha and supply captive power for expansion plans of NALCO at Angul and also greenfield project at Kamakhyanager in Dhenkanal, Odisha.

Speaking on the occasion, Mr. Piyush Goyal said in coming days the demand for aluminium shall increase many folds in the rapidly growing Indian economy the projects led by swadeshi companies shall take forward

the Make in India initiative bringing jobs and opportunities for the people of Odisha.

Mr. Dharmendra Pradhan in his address said that mineral rich state of Odisha is now getting its due with many new industries being set up in the state.

The two leading Central Public Sector Companies are synergizing their respective domain expertise to fuel the economic growth of India in general and state of Odisha, Joint Venture Agreement, Power Purchase Agreement etc. shall be fast tracked and be in place by the end of the current financial year

NTPC capacity crosses 48K Mark- with first 800MW Unit at Kudgi

With commissioning of 800 MW unit at Kudgi Super Thermal Power Station in Karnataka , the total installed capacity of the largest Power Utility of the country NTPC has risen to 48028 MW. This is the first 800 MW Unit commissioned by NTPC. Company has 19 coal based, 7 gas based, 9 solar PV, one Hydro and 9 Subsidiaries/ Joint Venture power stations.

Company has capacity of over 23,000 MW under implementation at 23 locations across the country including 4300 MW being undertaken by joint venture and subsidiary companies. ■■■■



PM presents NAPS Cheque to HAL



Prime Minister, Mr. Narendra Modi presenting a NAPS cheque to HAL CMD, Mr. T. Suvarna Raju (second from right) at a function in Kanpur.

The Prime Minister, Mr. Narendra Modi presented a cheque to HAL for playing a constructive role under the Government's National Apprenticeship Promotion Scheme (NAPS) at 'Kaushal Mahotsava' program held in Kanpur recently.

Mr. T. Suvarna Raju, CMD, HAL received the cheque on behalf of HAL. The NAPS proposes to work pro-actively with the industry to develop skilled manpower for the country. As per the scheme, 25 percent of the prescribed stipend payable to an apprentice is reimbursed to the employers directly by the Government of India. Rupees 1500 per month per apprentice is given by the Government of India to the employers who engage apprentices.

HAL was appreciated for active participation and engaging maximum numbers of apprentices under NAPS by the organizations. The Prime Minister e-launched various skill development projects during his visit to Kanpur. Mr. Rajiv Pratap Rudy, Union Minister of State

for Skill Development and Entrepreneurship was present on the occasion.

Union Minister inaugurates Structural Assembly of HAL-Do-228 Civil Variant; First Aircraft to Roll-Out in April 2017

The Minister of State for Civil Aviation Mr. Jayant Sinha inaugurated Structural Assembly of HAL-Do-228 (Civil variant) at HAL's Kanpur facility recently. "We are keen to take forward our Regional Connectivity Scheme (RCS) and HAL has an important role to play in this", he said. The Minister pointed out that there is a marker demand for at least 200 such aircraft and the government would conclude the contract with HAL once the first aircraft is rolled-out. Speaking on the occasion, Mr. T. Suvarna Raju, CMD, HAL said he expects the first aircraft to roll-out by April 2017. The DO-228-201 upgraded version, a 19 seater commuter aircraft currently being manufactured at HAL Transport Aircraft Division (TAD) Kanpur is the most

suitable product under "Make in India" category for Regional Connectivity Scheme (RCS). "Our aim is to help the Government in its mission to provide affordable and sustainable air travel with access to various parts of India. As a proactive step in this direction HAL board sanctioned Rs. 100 crores for two civil variants though there is no firm order. We see a big business opportunity in this segment for next 10 years", he said. HAL has already started manufacturing two civil demonstrator aircraft.



Mr. T. Suvarna Raju, CMD, HAL inaugurating a 3.5MW solar power project at HAL Airport Bengaluru.

HAL Airport First to Install Single-Axis Solar Project

In a significant move to harness solar energy, a 3.5MW solar power project was inaugurated by Mr. T. Suvarna Raju, CMD, HAL at HAL airport Bangalore to coincide the HAL's Foundation Day. The project is spread over 23 acres with 12,985 solar modules installed. The project complies with domestic content requirement (DCR) since the modules used in this project are manufactured in India. ■■■

CMD, KIOCL Inspects Blast Furnace Unit at Mangalore



Blast Furnace Unit at Mangalore.

Mr. Malay Chatterjee, CMD, KIOCL Ltd. along with Mr. Subba Rao, Director (Commercial) inspected Blast Furnace Unit at Mangalore recently to review the progress on re-commissioning and resumption of production of its BFU which will go in for heating before the FY 2016-17.

The Blast Furnace Unit was commissioned to produce 2.16 lakh tons per annum of foundry grade Pig Iron during Feb. 2001 and was shut down from August 2009 due to the market downtrend and non-availability of raw material.

The improvement in the market conditions and availability of

input materials, the financial performance will yield positive benefit for the Company. Therefore, the Board of Directors of KIOCL

has decided to restart the Blast Furnace Unit.

Sensitization workshop on Cashless Transaction

WIPS, Mangalore wing arranged a sensitization workshop through KIOCL's Banker Corporation Bank recently at Resource Centre, Mangalore for delivering talk on the modes of cashless transaction, the advantage of cashless transactions and assistances extended by the banks to enable all vendors/ customers/ contractors/ laborers to adopt cashless methods of payment and receipts. Contract laborers of Pellet Plant Unit and Blast Furnace Unit participated in the workshop.



Sensitization workshop through KIOCL's Banker Corporation Bank.



NRL exports Wax to Nicaragua

After touching four foreign shores, NRL Wax is now on its way to the Central American Nation of Nicaragua.

The first export consignment containing 60 tonnes of Fully Refined Paraffin Wax (FRPW) was flagged off to Nicaragua recently from the premises of the Numaligarh Refinery Marketing Terminal by Director (Technical) NRL Mr. S. R. Medhi in presence of other NRL officials.

Earlier, NRL Wax has been exported to countries as far as Mexico, Kenya, Nepal and Bangladesh.

Prime Minister of India Mr. Narendra Modi dedicated NRL's Wax Plant to the Nation recently at a public function in Dibrugarh, Assam. The 50,000 Metric Tonnes (MT) Wax Plant commissioned in March 2015 at a cost of Rs. 676 cr. is the country's largest Wax producing unit with indigenous technology developed by IIP Dehradun, EIL and NRL. Since commissioning of the Wax plant, NRL has emerged as the largest manufacturer and marketer of Wax in the country.



The first consignment of NRL Wax to Nicaragua being flagged off Numaligarh Refinery Marketing Terminal by Director (Technical) NRL Mr. S. R. Medhi.

NRL hosts BPCL Group Refineries Finance Synergy Meet

A 2 day BPCL Refineries' Finance Synergy Meet with the theme 'Together Towards Tomorrow' was held at Kaziranga recently. The Meet hosted by NRL was attended by representatives from BPCL group refineries viz. Mumbai refinery, Kochi refinery and Bharat Oman Refineries Limited apart from host NRL. The purpose of the Meet was to explore areas for leveraging

financial synergy and professional network amongst the group companies. BPCL (Bharat Petroleum Corporation Limited) holds 61.65 % share in NRL (Numaligarh Refinery Limited) and 50% share in BORL (Bharat Oman Refineries Limited).

Addressing the meet Mr. D. Rajkumar, CMD, BPCL and Chairman NRL said, 'Going forward, Finance function will have a major role to play in strengthening the four pillars of a business i.e. people, technology, infrastructure and safety. Constant innovation and sustained excellence in operational, technical and financial spheres is imperative for survival of business in today's world'. Mr. P. Padmanabhan Managing Director NRL, Mr. S. K. Barua, Director (Finances), Mr. S.R. Medhi Director (Technical) NRL, Mr. P. Balasubramanian Director (Finance) BPCL, Mr. R. Ramachandran Director (Refineries) BPCL and Mr. S. D. Maheshwari GM (Finance) NRL also addressed the gathering.



Mr. D. Rajkumar, CMD BPCL and Chairman NRL addressing BPCL Group Refineries Finance Synergy Meet at Kaziranga.

Personalia



Mr. S. Gopu
takes charge as CMD, ITI
Limited.



Commodore Rakesh Anand
IN (Retd) takes over as CMD,
MDSL.



Dr. P. V. Ramesh
is appointed as CMD, REC.



Mr. Kishore Chandra Das
is appointed as Director
(Personnel), RINL.



Mr. R. Vikraman
takes charge as Director
(HR) NLCIL.



Mr. P. K. Sarangi
is appointed as Director
(Technology), Mecon.



Mr. Chinmoy Gangopadhyay
takes charge as Director
(Projects), PFC.



AIRSEWA FOR A DELIGHTFUL AND DIGITAL TRAVEL EXPERIENCE



Union Minister of Civil Aviation, P. Ashok Gajapathi Raju, launched the AirSewa portal and mobile application in New Delhi, on November 25, 2016, to foster hassle-free travel, among other advantages, to the Indian flyer

AirSewa is an initiative of the Ministry of Civil Aviation to offer people hassle-free, convenient, delightful and digital travel experience. It is operated through an interactive web portal, as well as through a mobile application for both android and iOS platforms. All Industry stakeholders have collaborated in this initiative. The portal includes mechanisms for grievance redressal, back office operations for grievance handling, flight status/schedule information, airport information and FAQs. Jayant Sinha, Union Minister of State for Civil Aviation, expressed how flight delays, problem in refunds, long queues and lack of proper facilities at airports and complaints of lost baggage are the most common problems that air travellers are facing today. He stressed upon the need to respond to these problems in a systematic rather than an ad hoc manner.



P. Ashok Gajapathi Raju, Union Minister of Civil Aviation, called upon all service providers to adopt the spirit of continuous improvement so that the collaborative platform of AirSewa can make air travel truly enjoyable for people.

Functions

Grievance Redressal Portal

With the launch of AirSewa, passengers will be able to register their grievances through the mobile application or a web portal. The users will have the facility to upload voice or video along with an elaborate description of their issues.

They will be given a unique reference number for each of their reported grievances, which would also be communicated through an email as well as an SMS.

The users can track the status and response to these grievances through the mobile application, as well as the web application based on the reference number provided. Once the grievance is addressed, the user has an option to provide his feedback and rate the overall experience and satisfaction. Nodal officers have been selected for all stakeholder agencies who will address the grievance in a time bound manner.

Back Office Operations for Grievance Handling

Each grievance shared will be directed to the responsible nodal agency for resolution based on the grievance category chosen by the complainant. The dashboard shall be divided into three categories, consisting of, grievances pending within time line, grievances pending beyond time line and closed grievances.

Each grievance shall have a resolution time line defined for initial response, as well as final resolution. Each communication

made by the nodal officer will be sent through an alert through email and SMS.

Live Flight Status/ Schedule Information

Air passengers will have an option to check the flight status and schedule between airports. Flights can be searched on the basis of flight number or for all flights to a particular airport. Users will have an option to check flight status, as well flight schedule between any of the airports. The flight status and other information can be searched airport wise also. Users will have an option to filter results based on the time slots of the flights, airlines and source/destination airports.

Airport Information

Airport information will display basic weather information about an airport as well as connecting flight details from the airport. The information will also include basic details and contact information regarding airport services consisting of transport/ parking, rest and relax, Wi-Fi and wheelchair services, etc.

FAQs

FAQs are categorised and each category provides an array of questions and answers.

The AirSewa portal and mobile application recently launched by the Ministry of Civil Aviation is an initiative directed towards hassle-free air travel. The Ministry of Civil Aviation has taken a direct and effective step to fight the common problems of long queues, lost baggage and refunds at airports through this digital initiative which is expected to benefit millions of flyers.





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