Airbus in India: March 2014

Market Situation

India is one of the fastest growing markets in the world with a predicted annual increase in aviation traffic of above eight per cent over 10 years (2012 – 2021). The impressive growth figures are primarily being driven by a huge and expanding middle class coupled with renewed economic confidence. Yet the sector still has some way to go before it reaches the levels seen in mature aviation markets such as the US, Australia and Europe. Even so, by 2032, Airbus estimates that Indian carriers will need some 1,200+ new aircraft to meet passenger and freight demand.

Today Airbus aircraft are in the fleets of all major Indian carriers and with well over 60 per cent of all new aircraft orders (100+ seats), Airbus is India's aircraft of choice.

Notable recent orders from Indian carriers include IndiGo's order for 180 aircraft (including 150 A320neos) and GoAir's order for 72 A320neo placed in 2011. Others include A320 Family aircraft for Air India and A330s for Jet Airways.

Industrial Co-operation

The establishment of Airbus India was formally announced in March 2014, and brings together engineering, strategy, procurement and customer services under one roof. . The organisation galvanises Airbus' broad industrial Indian footprint under one customer facing operation, bringing Airbus closer to customers, suppliers and stakeholders.

Airbus has been fostering cooperation and helping the Indian aviation sector grown sustainably for over 40 years. Today, India produces parts for the full range of Airbus aircraft, and employs some 350 engineers in Bangalore and 5,000 nationwide directly and indirectly on all Airbus programmes. Today Indian suppliers contribute to all Airbus aircraft programmes so we can claim "there's a bit of India in every Airbus".

Bangalore, Asia's "Silicon Valley" and also India's aviation capital is the natural centre for Airbus India operations. The region produces some of the world's best engineering graduates and is home to some of the leading aviation research institutions and production facilities.

Airbus vision for the Indian Aviation sector is to support its growth in the most sustainable way possible and to use commercial successes for further mutually beneficial industrial co-operation opportunities.

Airbus' industrial partnerships in India span right across engineering, IT services, training, technical publications and R&T. It also includes manufacturing of aircraft parts and sub-assemblies, such as doors and wing components for the A320 Family of aircraft. In June 2012, Airbus launched an enhanced Customer Support Network from India with coverage including India, Sri Lanka, Bangladesh and the Maldives. In India the customers are covered by two support Hubs in Mumbai and Delhi.

The cumulative turnover of work generated (not investment) in India has tripled over the last three years (Approx. 250 M€ in 2013) and is expected to grow significantly.

Airbus cooperation strategy with India is summarised as the **"six pillars of cooperation"**.

Six Pillars of co-operation:

1. Airbus India Engineering

Operational since 2007, it specializes in high-tech aeronautical engineering and works closely with other Airbus engineering offices around the world, as well as with the Indian aviation industry. This centre is fully owned by Airbus.

Around 350 (including subcontractors) skilled engineers are engaged in development of capabilities in the areas of modelling & simulation, computational fluid dynamics, structure as well as digital simulation, visualization, and Testing – which are critical factors in the design and production of high-performance aircraft like the A380, the SA NEO and the A350. They are working with all Engineering centres in Europe. The centre is expected to grow to more than 450 engineers in the coming years.

2. Training and Flight Ops Support

Airbus has set up a fully owned entity in 2007 called **Airbus Training India (ATI)** to facilitate maintenance and pilot training. ATI started its operations in April 2007 and has since been providing maintenance training to airlines in India and neighbouring countries (Far East and Middle-East), having trained more than 1,000 people to date.

A pilot training centre was set up in Bangalore under CAE-Airbus global cooperation in 2008, and this centre currently has two simulators, able to train several hundred pilots per year. CAE, Interglobe and Airbus agreed to set up another pilot training centre in north of India, in the National Capital Region (Greater Noida), to be strategically located close to some of our key customers there. This training centre is currently operational and was officially opened during Q4 2013. This training centre has two A320 simulators and has the potential to expand to ten simulators.

Along with training activities, Flight ops support is provided to our customers in India and surrounding countries from New Delhi.

3. Aero-structure Design and Build:

Airbus has several close relationships with Indian suppliers and is encouraging Tier-1 partners to work with Indian companies. Some examples:

HAL (Bangalore): Airbus industrial cooperation with India began in 1988 when an agreement was reached with Hindustan Aeronautics Limited (HAL) to manufacture passenger doors for the A320 aircraft. Today, HAL produces half of all A320 forward passenger doors.

Dynamatics (Bangalore): Partnering with Tier-1 supplier SPIRIT Aerostructures to manufacture Single Aisle Flap-Track Beams for A319/320/321. Dynamatics is a single-source for this complex assembly. Dynamatics performance is quite good on this assembly. They have also been recently awarded a contract to produce Flap-Track Beams for our Long Range aircraft programme thereby having a Centre of Competence for Flap-Track Beam production.

TATA (Bangalore): Partnering SPIRIT Aerostructures to produce composite parts for A350 XWB programme.

AEQUS (previously called as Quest Manufacturing at Belgaum, Karnataka): AEQUS directly and partnering with our Tier-1 Premium Aerotech, has been awared a contract to produce a couple of hundred details parts across several Airbus aircraft programmes.

4. Engineering, Information System and Technical Publication Services

Several engineering projects have been initiated with Indian companies to provide Engineering Services to various aircraft programmes including the A380 and the A350 XWB.

Two dedicated Offshore Design Centres (ODCs), one with CADES for CoE Fuselage and the other with Quest for CoE Wing & Pylon was inaugurated in June 2011 in order to extend the AIrbus engineering footprint in India. Both design centres have around 150 engineers each and are expected to grow to 250 engineers each in the next three years. Further, Engineering offshore centres have been set up for Airbus Technical Publication with Sonovision-Aetos in Bangalore and various T1 companies like Altran, Alten etc.

Several companies such as, Infosys, Tech Mahindra, TATA, Geometrics and WIPRO have been selected as part of Airbus/Airbus Group supplier list to provide Information System Services.

5. Research & Technology

On R&T, Airbus has initiated projects with Indian Universities (Indian Institute of Science, Bangalore and Indian Institute of Technology) and national laboratories.

Emerging Technologies and Concepts (ETC) group of Airbus:

Globally Airbus has set up an ETC group within Engineering to work on emerging and disruptive technologies to foster innovation. The new ETC group for the whole of Airbus is headed from Bangalore with teams in Toulouse and Hamburg.

6. Other Initiatives

MRO: the Airbus Group is working with several partners in India to establish an MRO facility for Airbus aircraft. We are committed to help setting up MRO in India for Airbus aircraft with our partners.

Spares Centre: A Spares Support Solutions India Pvt Ltd (SSSI), an Airbus Group initiative, was created in 2009 in partnership with Airlogic Ltd and Air Space Infrastructure Private Ltd. The JV will maintain an inventory of components used on all types of Airbus commercial aircraft by operators in India. The spares centre has been setup in Navi Mumbai.

India Bio-Diversity Programme: It started as a three year initiative running from 2010 to 2012. The programme has been further extended for another two years in partnership with The United Nations Development Program (UNDP), Global Environment Facility Small Grants Program (GEF SGP), Minister of Environment & Forests (MoEF) India, Centre for Environmental Education (CEE), Centre for Tribal and Rural Development Trust (CTRD), Kudimery and Kadalakolly Communities. This project is aimed at setting up Bio-Gas plants in these communities thereby helping them to protect forests, implement new ways of improving people's livelihoods, develop alternative energy and create awareness on the topic of protecting bio-diversity in the country. This is the largest project initiated by ACF so far.

A380 Landing rights in India

On the 27th of January this year the Indian Ministry of Civil Aviation approved A380 operations in India. Airbus welcomes this decision very much. The A380 will help Indian airports generate more revenue and will offer the Indian flying public the most comfortable flying experience.

End of February Mumbai airport has been certified by the Indian DGAC as first Indian airport for A380 operations.

Environmental impact of the A380 – in particular “noise”: the A380 is much quieter than its competition – twice as quiet during take-off and four times quieter during landing. That’s why the A380 was awarded a quietness prize by the UK’s noise abatement society.

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