



Government of Karnataka

# AEROSPACE



**INVEST  
KARNATAKA**  
**2016**

*GLOBAL INVESTORS MEET*

February 3-5, 2016  
Bangalore Palace, Bengaluru

# Foreword



## **Shri. R.V. Deshpande**

**Hon'ble Minister for Large and  
Medium Industries and Tourism**

“

*The establishment of Hindustan Aeronautics Limited in Bengaluru in December 1940 in association with the then Mysore State, heralded the beginning of the aerospace industry in our country.*

*Subsequent establishment of other defence public sector undertakings and R&D institutions positioned Karnataka as a prime location for Aerospace & Defence industry in India.*

*Today, Karnataka accounts for 70% of the supplier base of the sector making it the undisputed aerospace hub of India.*

*Government of Karnataka has continued to invest in building support infrastructure and training skilled manpower to promote a vibrant aerospace ecosystem. With all the steps that the State Government has initiated, we are confident that Karnataka will soon be counted amongst other elite global aerospace hubs.*”

# Foreword



**Smt. K. Ratna Prabha, IAS**  
Additional Chief Secretary to Government,  
Commerce & Industries Department

“*Karnataka being the leader in aerospace in the country has the advantage of a wholesome and favourable ecosystem. With presence of major PSUs, MNCs and large number of SMEs, the enterprises in the State have covered a major portion of the value chain.*

*Aerospace sector has been identified as a focus sector in the new Industrial Policy 2014-19, allowing the investors to avail extra incentives. It also showcases the State's commitment to retain the leading position and emerge as a global hub in the sector.*”

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# Highlights

# 1



# Karnataka is undisputed leader of A&D sector in India



- Home to several aerospace organizations like HAL, NAL, ISRO, DRDO, ADA, DARE and BEL

- Availability of a large, highly skilled workforce is Karnataka's greatest asset

- State attracts 65% of the aerospace investments in the country

- 75% of the expenditure for sourcing from India, by global majors and Tier I suppliers, is in Karnataka

- First and only state in the country to introduce a dedicated Aerospace Policy

- Presence of more than 2000 SMEs executing niche subcontracting work for Defence Public Sector Undertakings

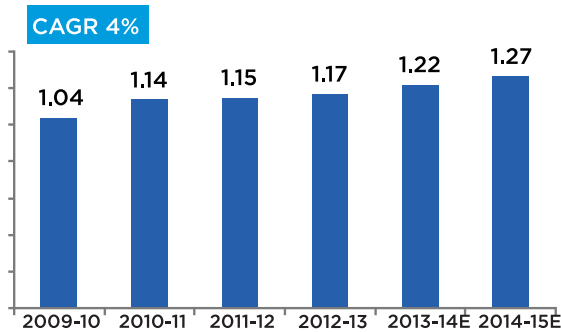
# Sector Snapshot



# 2

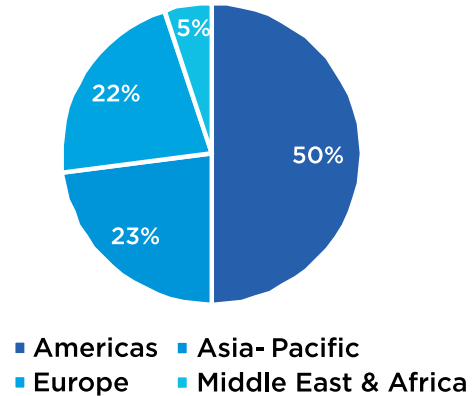


**Global Aerospace and Defence Market Size (in USD trillion)**



Source: Industry Reports

**Global Aerospace Market by Geography**

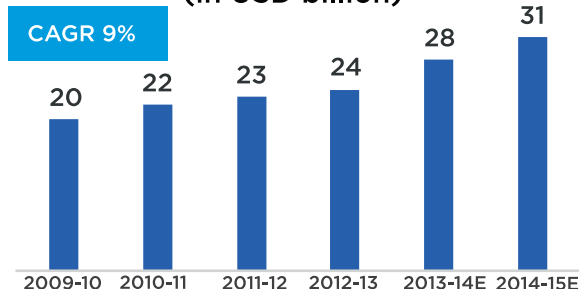


**The aerospace industry is expected to continue growing at 4% CAGR till 2020**

- India, China, Japan, and Russia are among top 10 countries in terms of defence spending
- While growth of the defence sector has been negatively impacted by budget cuts in the US; capital allocation for modernization is indicating a promising trend in Asia Pacific
- Over 10,000 new passenger aircrafts are scheduled for delivery between 2014-2020, creating a huge potential for component manufacturing and MRO

# Indian Aerospace sector is outperforming the global sectoral growth rate

**Growth of Indian Aerospace Market (in USD billion)**



Defence sector accounts for 74% of the domestic aerospace industry owing to budget allocations for modernisation and acquisition programmes adopted by Ministry of Defence

40% of defence spending is allocated to capital acquisition within which 70% is being imported

Global rise in demand for aircrafts and rotorcraft creates an opportunity for OEMs & Tier I suppliers to source from India

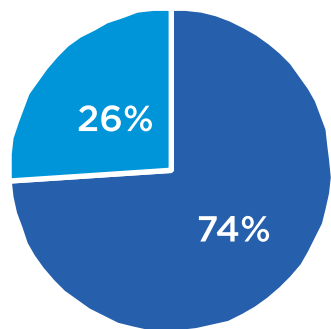
A&D expenditure is expected to be around USD 100 bn till 2022

Sourcing from India by global OEMs is expected to increase fourfold by 2020

Source: Industry Reports

*Indian aerospace market is being propelled by growth of its defence budget and the rise in global demand for passenger aircrafts and rotorcrafts*

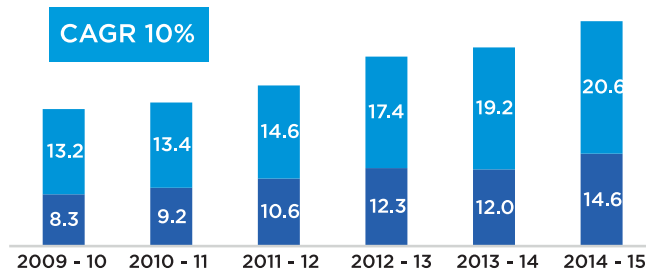
**Indian Aerospace Market - 2014**



■ Defence ■ Civil Aviation

Source: Industry Reports

**India's Defence Budget (in USD billion)**



■ Capital ■ Revenue

Source: Self-reliance in defence production, PwC

## Karnataka is the Aerospace capital of India



- The presence of Hindustan Aeronautics Limited (HAL) in Bengaluru since 1940 has propelled Karnataka as a leader in the Indian aerospace industry
- Karnataka has the presence of a strong lower tier supplier base with more than 2000 MSMEs involved in aerospace component manufacturing, engineering services, executing orders, and supplying subsystems
- Numerous aerospace companies involved in activities across the value chain have positioned Karnataka as a hub for end to end solutions in the sector

**75%** Share of Karnataka in sourcing spends by global majors and Tier I suppliers in India

**65%** Share of Karnataka in aerospace related investments in the country



DYNAMATIC TECHNOLOGIES





# Karnataka's Unique Advantage

3

# The depth and diversity of Karnataka has enabled it to become a leader in Aerospace & Defence

## Core strength

Presence of major domestic and international aerospace organisations across the value chain, from research to after sales for more than half a century, has created great depth in nuances of the sector

## IT talent

IT majors such as HCL, Wipro, Tata Consultancy Services, Infosys, etc. have been serving global clients in the sector, further enhancing the ecosystem in the State

## Manufacturing base

Karnataka being a leader in heavy engineering and machine tools manufacturing, has the advantage of a well developed ecosystem for high value manufacturing

## Proximity to vendor base

More than 2000 MSMEs operating in clusters for many decades and supplying to domestic defence as well as global OEMs and Tier I suppliers, has created an large vendor base

## Opportunity for related services

Bengaluru has one of the busiest airport in India, creating potential for MRO, ground handling, and manufacturing of ground support equipment





# Government Initiatives & Policy Support



# 4

## Government has worked closely with Private Sector in developing a rich aerospace ecosystem

Aerospace Task Force (ATF) constituted by Government of Karnataka advises the Government on all aspects related to the sector

Karnataka is first and the only state in the country to have a dedicated Aerospace Policy

Projects such as the Aerospace Technology Center and Aerospace Common Finishing Facility, envisioned in the policy are being set up to provide support facilities to SMEs

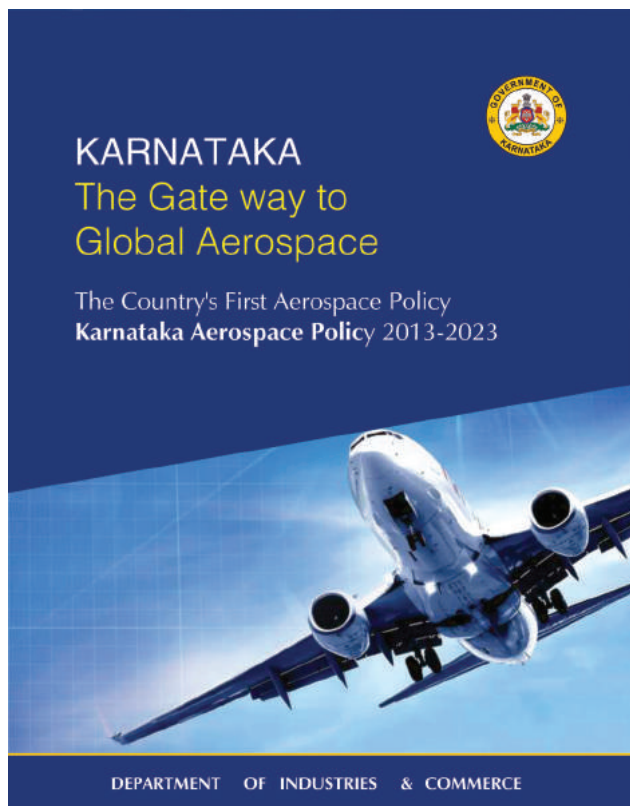
State Government has established a state of the art 1000 acre Aerospace Park with a 252 acre sector specific SEZ at Devanahalli near Kempegowda International Airport

State Government encouraged Aequs in setting up the country's first private Aerospace and Precision Engineering SEZ in Belagavi; and Mahindra's Aero Structures Plant at Kolar

State Government allotted 610 acre of Government land at Gubbi in Tumakuru District to HAL to establish the Light Utility Helicopter facility, which will act as an anchor to attract a cluster of aerospace SMEs to Tumakuru

State Government in partnership with GoI, National Skill Development Corporation (NSDC), and Bangalore Chambers of Industry and Commerce (BCIC) has proposed to set up India's first Multi-Skill Training Institute for Aerospace and Aviation

# Karnataka is the first state in the country to have a dedicated Aerospace Policy



## Mission :

### Phase I (2013 - 18)

- Attract investments to the tune of INR 24,000 Crore (USD 4 billion) in Aerospace Sector
- Create additional employment opportunities for (direct and indirect) about 40,000 persons by 2018 through a process of inclusive development
- Increase the contribution of Aerospace sector to enhance the share of industry in State's GDP from 28% to 30%

### Phase II (2018 - 23)

- Attract investments to tune of INR 36,000 Crore (USD 6 billion) in Aerospace Sector
- Create additional employment opportunities (direct and indirect) for about 60,000 persons by 2023 through a process of inclusive development
- Enhance the contribution of Aerospace sector to increase the share of industry in State's GDP from 30% to 32%

## Incentives & Concessions

Various incentives provided to Aerospace industry, with extent depending on size and location of the enterprise

Anchor Unit Subsidy	Exemption from Stamp Duty	Concessional Registration Charges	Exemption from Electricity Duty
Interest free loan on VAT	Reimbursement of CST	Entry Tax Exemption	Support for Capacity Building

- Special package of incentives and concessions offered for large, mega, ultra and super mega projects, depending on the merits of each case
- Special incentives provided for MSMEs to assist them to become competitive

# Various policy measures have been introduced by Government of India to promote indigenisation in the sector

## Defence Procurement Procedure 2013

- Prioritisation of 'Buy (Indian)' and 'Buy and Make (Indian)' for capital acquisition
- Maintenance Transfer of Technology through bidding
- Simplification of 'Buy and Make (Indian)' procedure
- Clear definition of indigenous content
- Ensuring faster progress in 'Make (India)' and 'Buy and Make (Indian)' cases
- Enhanced delegation of financial powers for capital acquisition
- Powers to Defence Acquisition Council to approve all deviations from DPP 2013

## Offset Policy

- The objectives of the Defence Offset Policy is to leverage capital acquisition to develop the Indian defence industry. Mandatory offset requirements of a minimum of 30% applies for procurement in excess of INR 3 Billion

## FDI Policy

- FDI cap in defence production has been raised from 26% to 49% under automatic route
- FDI beyond 49% allowed on case-to-case basis at the discretion of Cabinet Committee on Security

## Industrial License Regime

- List of items requiring an Industrial License (IL) has been issued
- Initial validity of IL extended to 15 years, further extendable up to 18 years for existing and new licenses
- Security manual for domestic defence companies has been issued

## Foreign Trade Policy

- List of military stores requiring No-objection Certificate from Ministry of Defence notified by Directorate General of Foreign Trade
- Strategy for export of defence products has been notified
- End User Certifications now required only from the immediate buyer

## Tax Regime

- Income Tax on Royalties and Fee for technical services received by non-residents has been reduced to 10% (from 25% previously)
- Excise duty and part custom duty exemption (CVD and SAD) withdrawn on goods manufactured/imported by contractors of GoI, PSUs, etc.

## Other initiatives

- Black listing policy made more practical to keep options open for the three services to source equipment



# Case Studies

# 5



## Rolls Royce - Setting up engineering and manufacturing base in India



**Kishore Jayaraman**

**President India & South Asia,  
Rolls Royce**

**“The opening of Rolls-Royce Engineering Centre marks the beginning of a new phase in the strong relationship that has existed for the past eight decades between India and Rolls-Royce. Our increasing footprint here demonstrates our continued commitment to the State of Karnataka, and will help Rolls-Royce and the region attract, develop and retain the best talent in the industry”**

### Background

- Rolls Royce’s association with Karnataka dates back to almost over 60 years when it first started licensed production of Orpheus engines that powered the Kiran aircraft and progressed to co-production of Adour family of engines at the HAL manufacturing facility in Bengaluru
- In recent years, Rolls Royce has moved beyond the license production model, undertaking world-class manufacturing for its global civil customers
- In 2013, Rolls Royce formed a 50:50 JV with HAL and International Aerospace Manufacturing Private Limited (IAMPL). IAMPL manufactures engine parts (compressor shrouds and cones) for Rolls-Royce gas turbines both for new production and the aftermarket
- Around 1000 engineers, through Rolls Royce’s partnership with QuEST & TCS, work at Rolls Royce managed engineering centres in Bengaluru. This is the one of the largest population of Rolls Royce engineers outside UK providing high quality engineering solutions and services across the entire product development life-cycle
- In view of enormous growth prospects, Rolls Royce has now expanded its engineering capability in Bengaluru, with plans to employ 500 people by the end of 2017. These centres will undertake aerospace engineering for customers in the region, as well as support for Rolls Royce’s regional supplier base

## Growth Strategy

Today, Rolls Royce is well positioned to cater to the future growth opportunities available in India and South Asia region. As the market opens up, it is optimistic about the future and will continue to invest in setting up world-class engineering and supply chain capability in Bengaluru. It will continue to support India, thereby delivering 'better power for a changing world'.



## Why Karnataka?

- Karnataka already hosts around 2,000 aerospace & defence companies, creating a robust ecosystem
- The State Government has demonstrated a lot of commitment to develop the A&D industry by providing adequate infrastructure, talented workforce, and conducive business environment
- Initiatives like proposal for establishing a Centre of Excellence in Aerospace Engineering in collaboration with the aerospace industry in Bengaluru which shall address the skill gap existing in the A&D sector

## Dynamic Technologies – Building a globally competitive company ground up



**Udayant Malhotra**

CEO and MD,  
Dynamic Technologies Ltd

**“The production of major aero structures for Boeing’s CH-47F helicopter is a major accomplishment, and is a significant milestone for the Indian Aerospace Industry. We are proud of our partnership with Boeing, who has invested considerably in development, training, tooling, and quality systems, working closely with us in establishing advanced manufacturing capabilities in India, which is truly in consonance with ‘Make in India’ program”**

### Background

- Dynamic was incorporated as Dynamic Hydraulics Limited in 1973 which was renamed in 1992 as Dynamic Technologies Limited to reflect the Company’s diversifying business interests
- By year 2000, Dynamic Technologies had emerged as Asia’s largest producer of Hydraulic Gear Pumps and one of the top five world-wide
- Dynamic and its subsidiaries employ 50 scientists, 500 engineers, and 2700 blue collar workers across its various work centers
- Dynamic Oldland Aerospace™ is a partner of choice for agencies of national importance including the Ministry of Defence and Hindustan Aeronautics Limited, as well as international aerospace majors
- Product offerings include the Wing and Rear Fuselage of the India’s Pilotless Target Aircraft – LAKSHYA, the Ailerons & Wing Flaps for the intermediate Jet Trainer HJT – 36, and major Airframe Structures for the Su-30 MKI Fighter Bomber
- Dynamic works closely with Airbus to assemble Flap Track Beams for the Airbus Single Aisle A-320 family of aircraft
- Dynamic Technologies has also been contracted as single- source supplier of major Airframe Assemblies for the Bell 407 Helicopter
- Dynamic has been contracted to manufacture the AFT Pylon Assembly and Cargo Ramp Assembly for the Boeing Chinook CH-47F Helicopter, which is Boeing Defence System’s largest export programme out of India



## Why Karnataka?

- People - Technically qualified workforce, addressing the most important pre-requisite for the sector
- Spirit of Technology - The seeds of innovation sown in the State early on has enabled growth in technological sectors
- Industry Friendly Ecosystem - Presence of large number of defence PSUs, MNCs and small players, making Karnataka an A&D hub
- Climate - A conducive and worker friendly climate providing competitive edge to the worker's efficiency



## Growth Strategy

- Dynamatic resorts to both organic and in-organic growth as a strategy to synergize the manufacturing effort
- Incremental improvement (organic) in skill sets and core competencies of the work force is a benefit to the company in particular and the country in general
- In the in-organic route, acquiring and utilizing new high end technologies and technical competence from its European facilities and combining with its cost of manufacturing advantage offered by its Indian plants, has been a success story for the company
- Building mutually beneficial relationships with Tier I manufacturers, becoming a Tier I to Primes thus making India and especially Karnataka a preferred destination for the Aerospace Majors of the world, is the vision of Dynamatic
- Dynamatic is venturing into the Homeland Security domain by offering cutting-edge security solutions to enhance nation's capabilities in countering modern day security threats
- Dynamatic is partnering in a big way with KIADB at Devanahalli Aerospace Park, for its future expansion

# UTC Aerospace Systems – Nurturing a competitive domestic vendor base



“UTC Aerospace Systems has been in Bengaluru for nearly two decades and its operations here have grown significantly during that time. I am happy that we chose Bengaluru as our base of operations in India. Today we can proudly say that we were among the first multinational aerospace companies to truly “Make in India”.

**Chris Rao**

Vice President and Country Head,  
UTC Aerospace Systems, India

## Background

- The UTC Aerospace Systems operation in Bengaluru, Karnataka was established in 1997 with 12 employees, to provide Maintenance, Repair and Overhaul (MRO) support for aircraft evacuation systems to airlines in India and the Middle East
- Today, UTC Aerospace Systems operation has approximately 2,250 employees housed at two locations in Whitefield, Bengaluru, and is an integrated manufacturing, engineering and sourcing hub for UTC Aerospace Systems
- Products built in India include aircraft evacuation systems, aircraft interior and exterior lighting, cargo systems, pilot and cabin attendant seats, flight control motors, actuation systems, and sensor systems. Additionally, the facility’s Engineering Center provides support to many UTC Aerospace Systems businesses worldwide



- During the early years of operation when UTC Aerospace Systems’ capabilities in assembly and engineering were being expanded, it was decided to develop a strong local vendor base to increase indigenization
- UTC Aerospace Systems invested in a team of dedicated supply chain professionals with expertise in machining, plastics, electronics, and special processes. This team partnered with numerous suppliers, educating them about the aerospace industry requirements and supporting them in quality and process certification initiatives and program management

## Why Karnataka?



The aerospace industry needs high caliber engineering talent and a skilled workforce, which the state of Karnataka has been able to offer. Today, products made at UTC Aerospace Systems, Bengaluru are shipped globally. UTC Aerospace Systems has been able to leverage the vendor base and talent in the region to grow its operations in Bengaluru.

# AEQUS - Making in Karnataka for the world



**Aravind Melligeri**

Chairman & CEO, Aequs

**“As a State, Karnataka has done exceedingly well in creating a vibrant aerospace ecosystem in Bengaluru and Belagavi but there is immense scope to further nurture its own talent base and plan for the development of other key locales in aerospace and other sectors. While geographical expansion for the plants is a feasible option, the State also needs to look at sectoral expansion which will reduce its dependency on the IT industry segment.”**

## Background

- Aequs specializes in precision machining, sheet metal fabrication, assembly, forging, and special processing for the aerospace, automotive, and oil & gas industries
- The company’s customers include Airbus, UTAS, Eaton, Baker Hughes, Schlumberger and Bosch
- Aequs’ approach to manufacturing is based on collaborating with partners to build efficient global ecosystems. The company has joint ventures with global majors.
- Aequs sources materials from twenty locations, manufactures in five locations, and delivers to customers across the globe
- The company has successfully adopted the acquisition route to expand its geographical reach and capabilities to serve global customers

## Growth Strategy

- Aequs has developed an integrated approach to manufacture, process and ship the consignment from the same locale in the SEZ.
- The 250+ acre Aequs SEZ houses several inter related manufacturing facilities like forging, machining, assembly and special processing which creates an ecosystem in itself, thereby reducing time as well as logistical cost for the company as well as for the end customers.
- Aequs will continue to expand capabilities by bringing in new technologies through its global ecosystem
- As part of the 2020 strategy, the company is working to add castings and aero-engine component machining capabilities to Aequs’ offerings
- Aequs has also planned to expand their offerings in Automotive and Oil & Gas sectors
- Aequs plans to generate revenue of USD 300 mn by the end of year 2020



## AEQUS has established India's first precision engineering SEZ at Belagavi, Karnataka



### Why Karnataka?

- Karnataka is one of the most industrialized and business-friendly states in India
- The state's industrial capacity is further strengthened by being at the forefront of NIMZ development in India and by providing multiple incentives to manufacturers
- Proximity of Belagavi to Mumbai, Bengaluru and Hyderabad as well as ports in Goa, Mumbai and Mangaluru
- Ample availability of skilled manpower
- Reputation of Belagavi for its quality education and rich culture















Government of Karnataka

## Contact Details

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