

## The C-295 and India's Aircraft Industry

The Hindu

Paper - III  
(Science & Technology)

- ❖ How significant is the setting up of the C-295 transport aircraft manufacturing facility in Vadodara to India's domestic industry?
- ❖ Which are the major companies within India's growing civil aviation sector?

On October 30, Prime Minister Narendra Modi laid the foundation stone for the C-295 transport aircraft manufacturing facility in Vadodara to be set up by Airbus Defence and Space and Tata Advanced Systems Limited (TASL). This is the first time a private sector company would be manufacturing a full aircraft in the country. This is a huge step forward for India in the global aircraft manufacturing domain.

### What is the C-295MW transporter?

The C-295MW is a transport aircraft of 5-10 tonne capacity which will replace the legacy Avro aircraft in the Indian Air Force (IAF) procured in the 1960s. The Request For Proposal (RFP) was issued to global firms in May 2013 and the sole bid by Airbus and TASL was approved by the Defence Acquisition Council in May 2015. On September 24, 2021 the Ministry of Defence (MoD) signed a ₹21,935 crore contract with Airbus Defence and Space for the acquisition of 56 C-295MW aircraft along with associated equipment.

In the words of N. Chandrasekaran, Chairman of Tata Sons, with the set-up of the final assembly line in Vadodara, the Tata Group will now be able to take aluminium ingots at one end of the value stream and turn it into an Airbus C-295 aircraft for the IAF.

Of the 56 aircraft contracted, 16 will come in fly-away condition from Spain between September 2023 and August 2025. The remaining 40 will be manufactured here to be delivered between September 2026 and 2031 at the rate of eight aircraft per year. Nearly 240 engineers will be trained at the Airbus facility in Spain for the project, the MoD said. The C-295 has very good fuel efficiency and can take off and land from short as well as unprepared runways, according to Air Marshal Sandeep Singh, Vice Chief of IAF. The IAF will base its first C-295 squadron



in Vadodara by converting the Avro squadron located there, as the fly-away aircraft start coming in, he stated.

With the procurement of these aircraft, India has become the 35th C-295 operator worldwide. With 285 aircraft ordered and 38 operators in 34 different countries, the aircraft has achieved more than 5,00,000 flight hours. The Navy and the Coast Guard have also expressed interest in the C-295 and it can be used in civilian roles as well as exported in the future. The C-295 is also a potential replacement for the AN-32 aircraft, the workhorse of the IAF with over 100 of them in service. To questions on this Air Marshal Singh said that the AN-32s will be in service upto 2032 and beyond and that they would make a decision on its replacement in five years or so from now.

### **How will this affect the domestic aircraft manufacturing ecosystem?**

Over the last two decades, Indian companies, both public and private, have steadily expanded their footprint in the global supply chains of major defence and aerospace manufacturers supplying a range of components, systems and sub-systems.

For instance, Boeing's sourcing from India stands at \$1 billion annually, of which over 60% is in manufacturing, through a growing network of 300+ supplier partners of which over 25% are micro, small and medium enterprises (MSME). "Boeing has the broadest and most capable engineering teams in the country with over 3,000 employees, and we're investing in a 43-acre, \$200 million centre of excellence to further grow in the years to come," a company statement said. Tata in a joint venture (JV) with Boeing, manufactures aero-structures for its AH-64 Apache helicopter, including fuselages, secondary structures, vertical spar boxes fuselages and vertical fin structures for the 737 family of aircraft. It also makes Crown and Tail-cones for Boeing's CH-47 Chinook helicopters.

Similarly, Lockheed Martin has joint ventures with TASL in Hyderabad which has manufactured more than 180 empennages for the C-130J Super Hercules transport aircraft and delivered 157 S-92 helicopter cabins. The latter facility manufactures aerospace components for commercial helicopters and aircraft and has expanded to include aircraft engine components for aerospace industry companies as well. One of the JV's also began manufacturing complex fighter wings with over 70% of detail parts produced indigenously. The JVs till date have clocked \$600 million worth of exports and produced over \$200 million in Indian industry revenue.

The U.S. simplifying its export regulations for India through a series of measures has added further impetus to this, experts noted. As U.S. and India pursue the Indo-Pacific strategy, India's strengths coupled with U.S. and European technology prowess can be a force for good in the world, noted Kriti Upadhyaya, Founder IndUS Tech Council who works closely with companies in both countries.

The domestic defence manufacturing ecosystem will get a boost with the C-295 project as it will lead to the development of a strong private industrial aerospace ecosystem not only in and around Vadorara but across

### **Make in India program**

The 'Make in India program' was launched on 25 September 2014. The main objective of this scheme is to increase the participation of manufacturing sector in the country's GDP and to transform India into a global manufacturing hub. The program is a one-of-a-kind Swadeshi campaign, covering at least 25 sectors of the economy. In which Indian companies are encouraged to make their own products.

#### **India in Defense Sector:**

- ❖ India has launched 'Defence Production and Exports Promotion Policy 2020' (DPEPP 2020) to promote exports in the defense sector.
- ❖ Stockholm International Peace Research Institute (SIPRI) for 2015-2019 India is ranked 23rd in the list of major arms exporters
- ❖ India still exports only 0.17% of global arms.
- ❖ India has set a defense export target of US\$ 5 billion by 2024.

the country. Bengaluru and Hyderabad already have developed such aerospace and defence domains over the years. The C-295 project is expected to create more than 15,000 skilled direct and indirect jobs across the aerospace ecosystem, with more than 125 suppliers qualified on global quality standards across India. Manufacturing of over 13,400 detail parts, 4,600 sub-assemblies and all the seven major component assemblies will be undertaken in India, along with tools, jigs and testers, Tata said.

### Is India's civil aviation sector growing?

India has a much bigger footprint in civil aviation manufacturing than defence, in addition to being a major market itself. Both Airbus and Boeing do significant sourcing from India for their civil programmes.

According to Airbus every commercial aircraft manufactured by them today is partly designed and made in India. "We buy manufactured parts and engineering services worth \$650 million every year from more than 45 Indian suppliers", the company said. Stating that India, which is moving ahead with the mantra of 'Make in India' and 'Make for the Globe', continues to enhance its potential by becoming a major manufacturer of transport planes, Mr. Modi said, "And I can visualise the day when the world's biggest passenger planes will also be manufactured in India and will also carry the tag of 'Make in India'.

Since 2007, Airbus has had a wholly domestic-owned design centre here which has more than 650 engineers who specialise in high-tech aeronautical engineering and work across both fixed- and rotary-wing Airbus aircraft programmes. Airbus which has design, management and training centres in India, added, "Our centres have the capacity to skill more than 8,000 pilots and 2,000 engineers over the next 10 years with plans for further expansion."

Today in India, we have the world's fastest growing aviation sector and we are about to reach the top three countries in the world in terms of air traffic, Mr. Modi said. "Crores of new passengers are going to be air passengers in the next 4-5 years... It is estimated that in the coming 10-15 years, India will need about 2000 more passenger and cargo aircraft."

Another major growing area is Maintenance, Repair and Overhaul (MRO) for which India can emerge as the regional hub, Ms. Upadhyaya remarked adding, "However, the private defence sector is still nascent and a conducive and stable regulatory and policy environment will be an important enabler." This moment is akin to the automobile clusters that have emerged in the country turning India into a major exporter of cars to the world. With the right momentum, a realistic roadmap and enabling policy framework, a similar story can be scripted to make the country a hub for aircraft manufacturing.

### Expected Questions

**Que. Consider the following statements-**

1. India has set a defense export target of USD 5 billion by 2024.
2. The Make in India program aims to transform India into a global manufacturing hub.
3. The C-295MW is a transport aircraft.

**Which of the followings statements is/are true?**

- |                 |                     |
|-----------------|---------------------|
| A. Only 1       | B. Only 2           |
| C. 2 and 3 only | D. All of the above |

**Answer : D**



## Expected Questions & Format

**Que.:** There is immense potential in the development of India's aeronautical sector, how can the 'Make in India' initiative prove to be helpful in the development of this sector?

**Answer Format :**

❖ **Introduction (30-40 words)**

Potential in the development of India's aeronautical sector.

e.g. Defence and civil aviation, public & pvt. ltd. companies attached with it.

❖ **Main Body (140-170 words)**

India's need of aeronautical sector with respect to Make in India Programme and it's potential to help in growth.

e.g. aeronautical sector, to make India selfreliant, to increase export, to generate employment opportunity etc.

❖ **Conclusion (30-40 words)**

Give your view taking into consideration opportunity in upcoming time.

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**Note:** - The question of the main examination given for practice is designed keeping in mind the upcoming UPSC main examination. Therefore, to get an answer to this question, you can take the help of this source as well as other sources related to this topic.