

# eVTOL

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**In news**– The Union Civil Aviation Minister recently has said that the Government of India is exploring the possibility of inviting manufacturers of **Electric Vertical Take off and Landing (eVTOL) aircraft** to set up bases in India.

## About eVTOL aircraft-

- eVTOL aircraft is one that **uses electric power to hover, take off, and land vertically.**
- **Most eVTOLs also use what is called as distributed electric propulsion technology** which means integrating a complex propulsion system with the airframe.
- There are multiple motors for various functions – to increase efficiency and to also ensure safety.
- This is technology that has grown on account of successes in electric propulsion based on progress in motor, battery, fuel cell and electronic controller technologies and also fuelled by the need for new vehicle technology that **ensures urban air mobility (UAM).**
- It **opens up new possibilities which aircraft with engines cannot carry out in areas such as manoeuvrability, efficiency** and even from the environmental point of view.
- **eVTOLs have been likened to “a third wave in an aerial revolution”**; the first being the advent of commercial flying, and the second, the age of helicopters.
- There is general agreement that the eVTOL world is moving forward based on the spark provided by NASA researcher Mark D. Moore who came up with the concept of a personal (one man) air vehicle while working towards his doctorate.
- The global market for eVTOLs was put at \$8.5 million in 2021 and is to grow to \$30.8 million by 2030.

## What are electric aircraft?

The Union Aviation Minister while speaking at the seventh edition of the India Ideas Conclave in Bengaluru, stated that India is in 'conversation' with a number of eVTOL producers. But how are Electric Vertical Take off and Landing aircraft structured? And what are they capable of?

**Vertical Aerospace VA-X4**  
\*Electric Vertical Take Off and Landing

**Propulsion:** Eight Rolls-Royce electric motors

Luggage hold

V-tail with rudders

Pilot and four passengers

Rear vertical rotors

Front rotors

**Take-off and landing:** Rear vertical rotors fall out, front propellers orientate vertically

Stowed

Open

**Flight:** Rear rotors fold into stowed position. Undercarriage withdraws. Front propellers tilt for forward motion

Cruise speed: **245km/h**  
Range: **160km**  
Payload: **450 kg**  
Wing span: **15m**  
Length: **13m**  
Height: **4m**

Sources: Vertical Aerospace, Future Flight, Business Wire. Picture: Vertical. © GRAPHIC NEWS