



SNS COLLEGE OF TECHNOLOGY



(An Autonomous Institution)

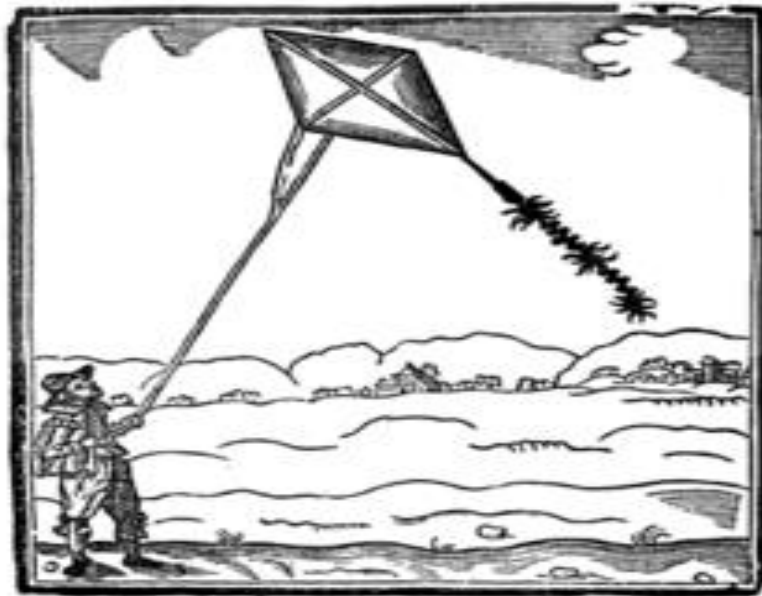
COIMBATORE-35

DEPARTMENT OF AEROSPACE ENGINEERING

HISTORY OF AIRCRAFT

The **kite** may have been the first form of **man-made aircraft**.

It was invented in **China** possibly as far back as the **5th century BC** by **MOZI** (Mo Di) and **LU BAN**

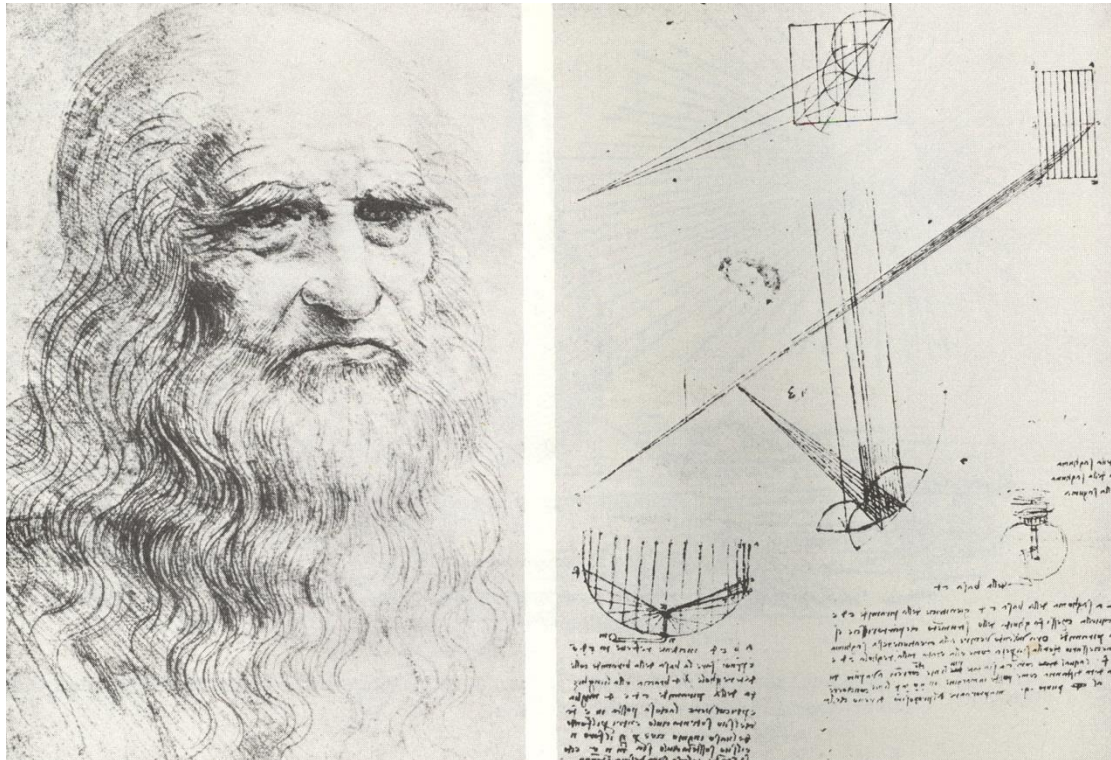


The Flying Drake or Kite
NEHRU K,AP/AERO

EARLY YEARS

200 BC THRU 1890 AD

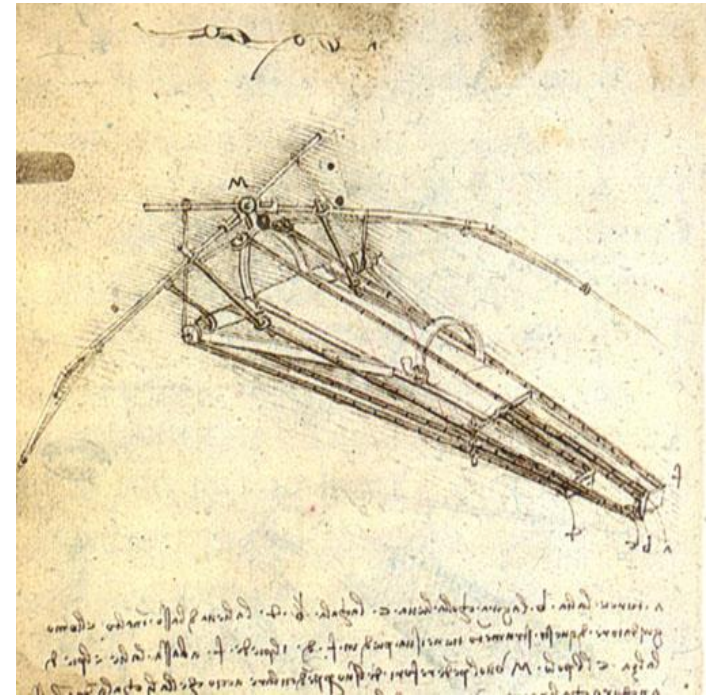
- ITALIAN ARTIST/INVENTOR
 - LEONARDO DA VINCI – 1452 AD -1519 AD



EARLY YEARS

200 BC THRU 1890 AD

- ITALIAN ARTIST/INVENTOR
 - LEONARDO DA VINCI FORESAW THE PARACHUTE, HELICOPTER AND AIRCRAFT



HOT AIR BALLOONS

From ancient times the **Chinese** have understood that **hot air rises** and have applied the principle to a type of **small hot air balloon** called as **Sky Lantern**

A sky lantern consists of a **paper balloon** under or just inside which a **small lamp** is placed.



EARLY YEARS

200 BC THRU 1890 AD

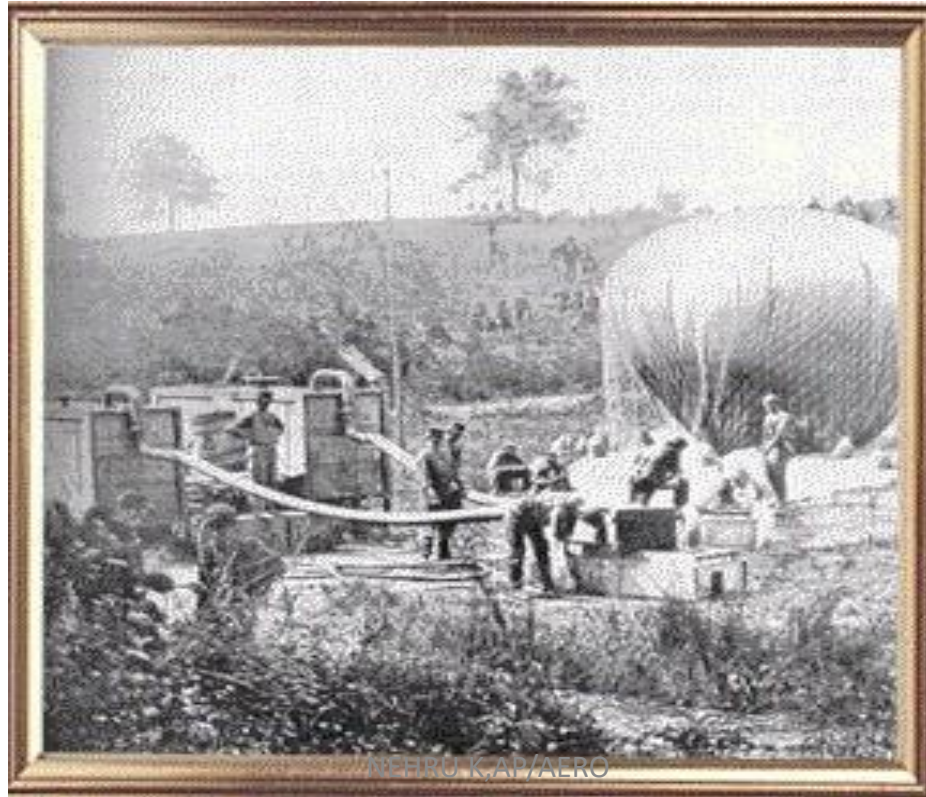
- **MONTGOLFIER BROTHERS - JOSEPH AND JACQUES ETIENNE**
- **MADE THE FIRST HOT AIR BALLOON FLIGHT IN DECEMBER 1782 IN FRANCE**
- **MADE FIRST MANNED FLIGHT NOVEMBER 1783**



EARLY YEARS

200 BC THRU 1890 AD

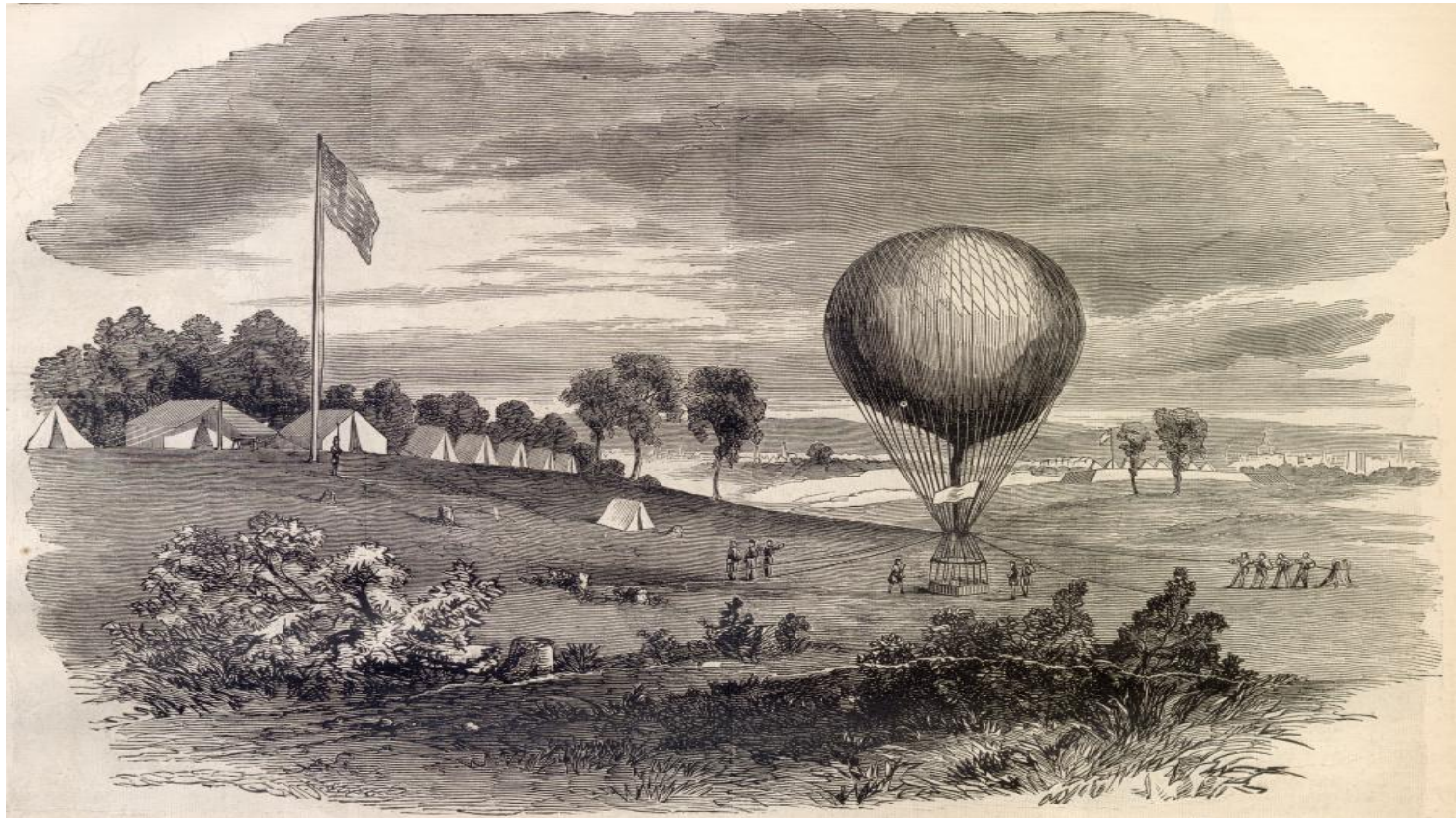
- CIVIL WAR – 1862 THROUGH 1865
 - **OBSERVATION BALLOONS WERE USED TO MONITOR TROOPS AND SPOT ARTILARY**



EARLY YEARS

200 BC THRU 1890 AD

- CIVIL WAR – 1862 THROUGH 1865



EARLY YEARS

200 BC THRU 1890 AD

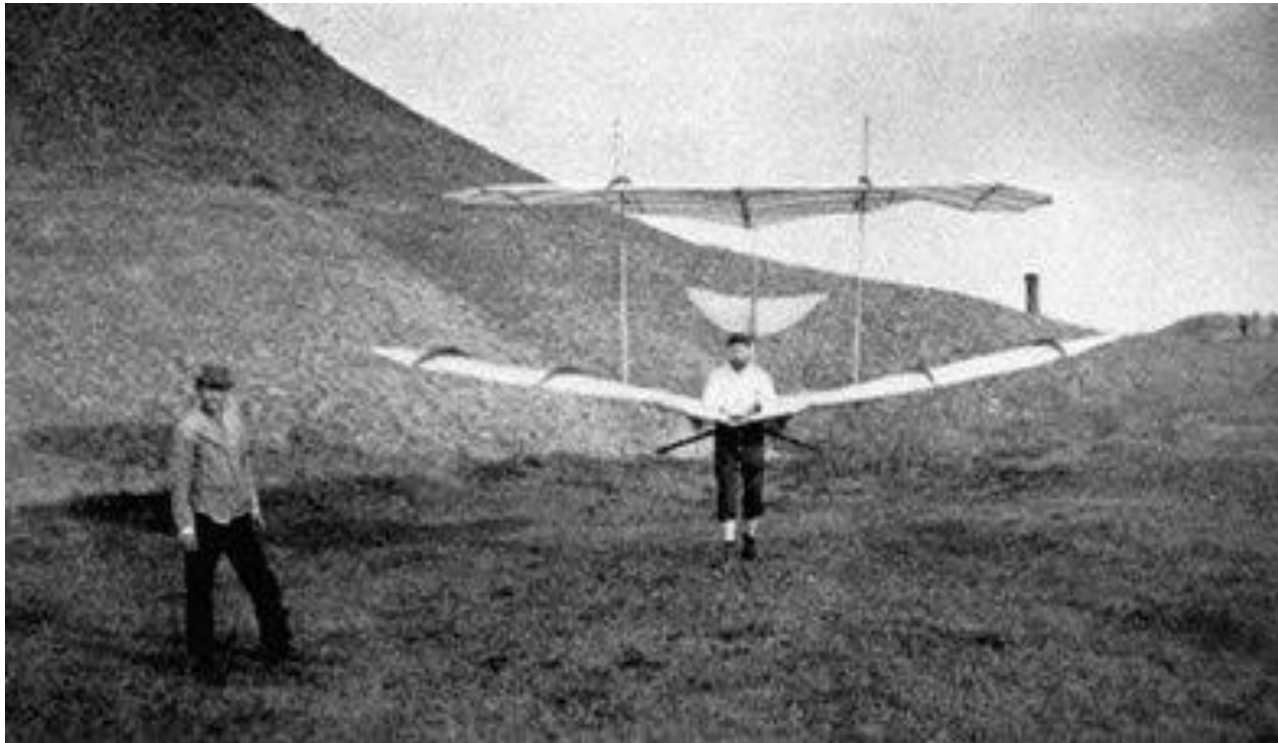
- **INVENTIONS**
 - **BALLOONS**
 - **GAS**
 - **HOT AIR**
 - **CONCEPTS**
 - **PARACHUTE**
 - **HELICOPTER**
 - **HUMAN POWERED GLIDER**

PRE-POWERED FLIGHT 1860-1903

- **UNPOWERED GLIDERS**
 - **OTTO LILIENTHAL 1848-1896**
 - **OCTAVE CHANUTE 1832-1910**
 - **CAPTAIN F. FERBER**
 - **WRIGHT BROTHERS**

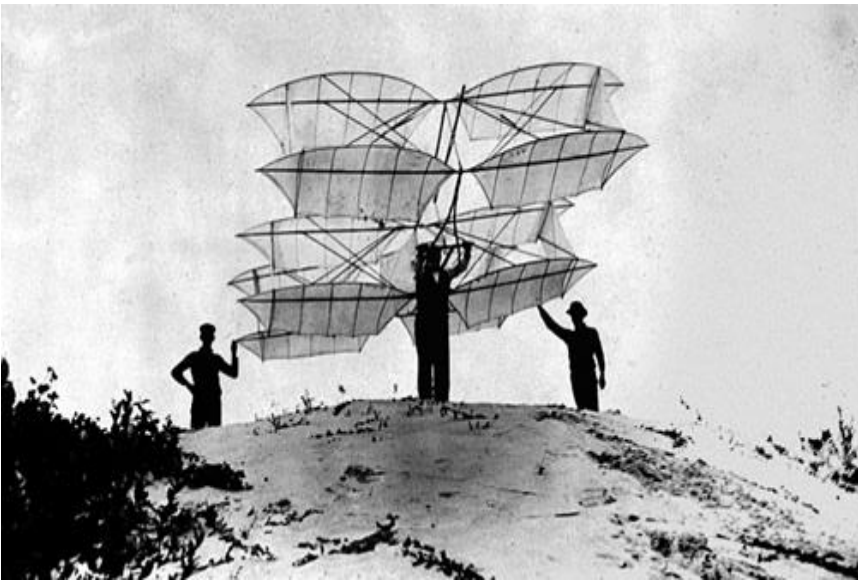
PRE-POWERED FLIGHT 1860-1903

- OTTO LILIENTHAL



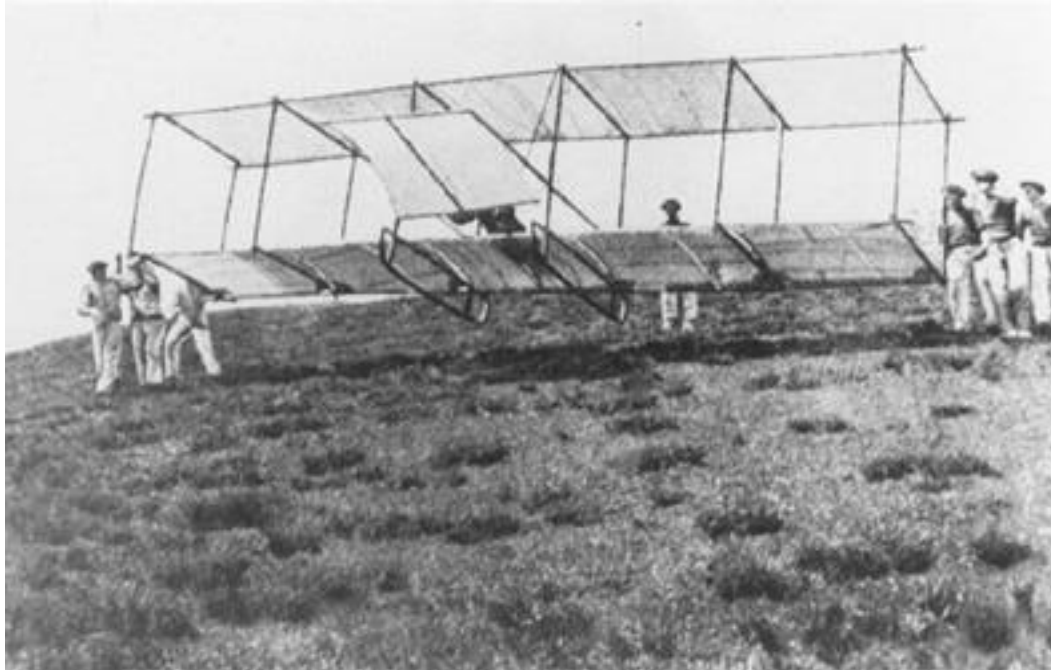
PRE-POWERED FLIGHT 1860-1903

- OCTAVE CHANUTE



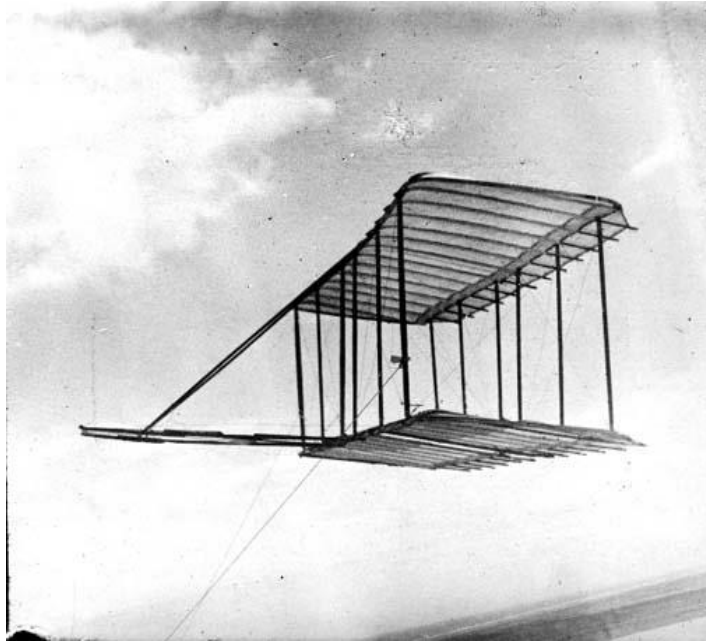
PRE-POWERED FLIGHT 1860-1903

- CAPTAIN F. FERBER



PRE-POWERED FLIGHT 1860-1903

- WRIGHT BROTHERS



PRE-POWERED FLIGHT 1860-1903

- **INVENTIONS**
 - **RIGID FRAME AIRCRAFT**
 - **HUMAN CONTROLLED FLIGHT**
 - **WEIGHT SHIFTING**
 - **WING DESIGN**
 - **PITCH CONTROL SURFACES**

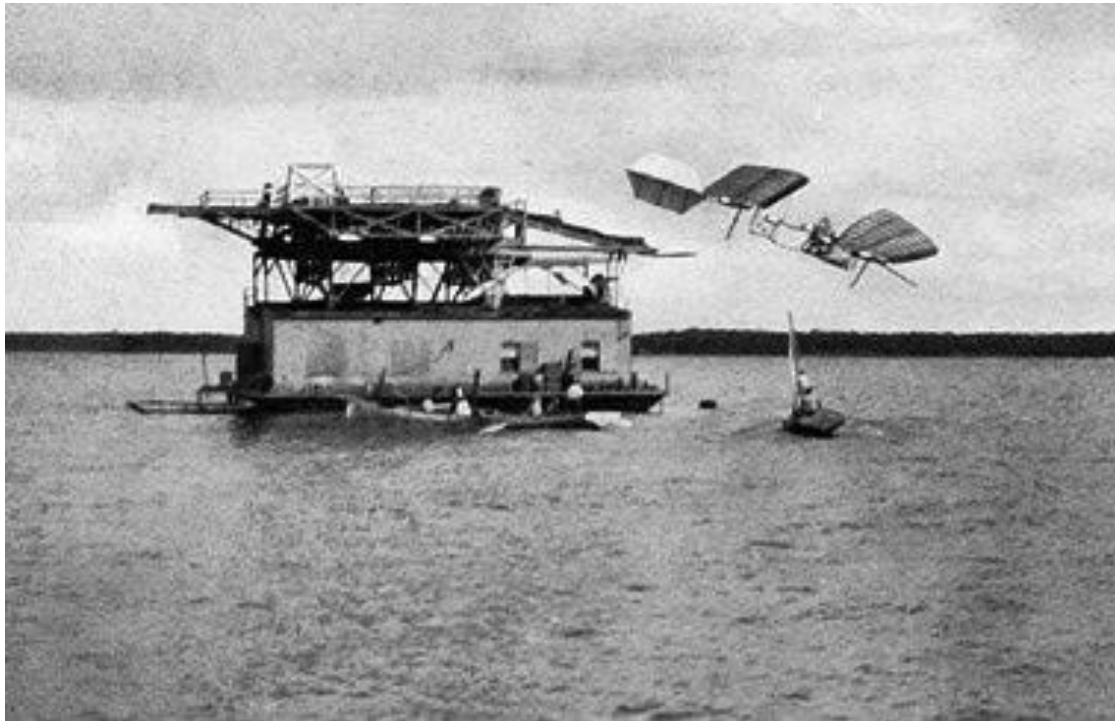
EARLY POWERED FLIGHT

1903-1914

- EARLY POWERED FLIGHT
 - SAMMUEL PIERPONT LANGLEY
 - WRIGHT BROTHERS – ORVILLE and WILBER
 - GLEN CURTIS
 - GLEN L MARTIN
 - LOUIS BLEROIT
 - CAL ROGERS
 - LINCOLN BLEACHLEY

PRE-POWERED FLIGHT 1860-1903

- SAMUEL PIERPONT LANGLEY – 1834 TO 1906



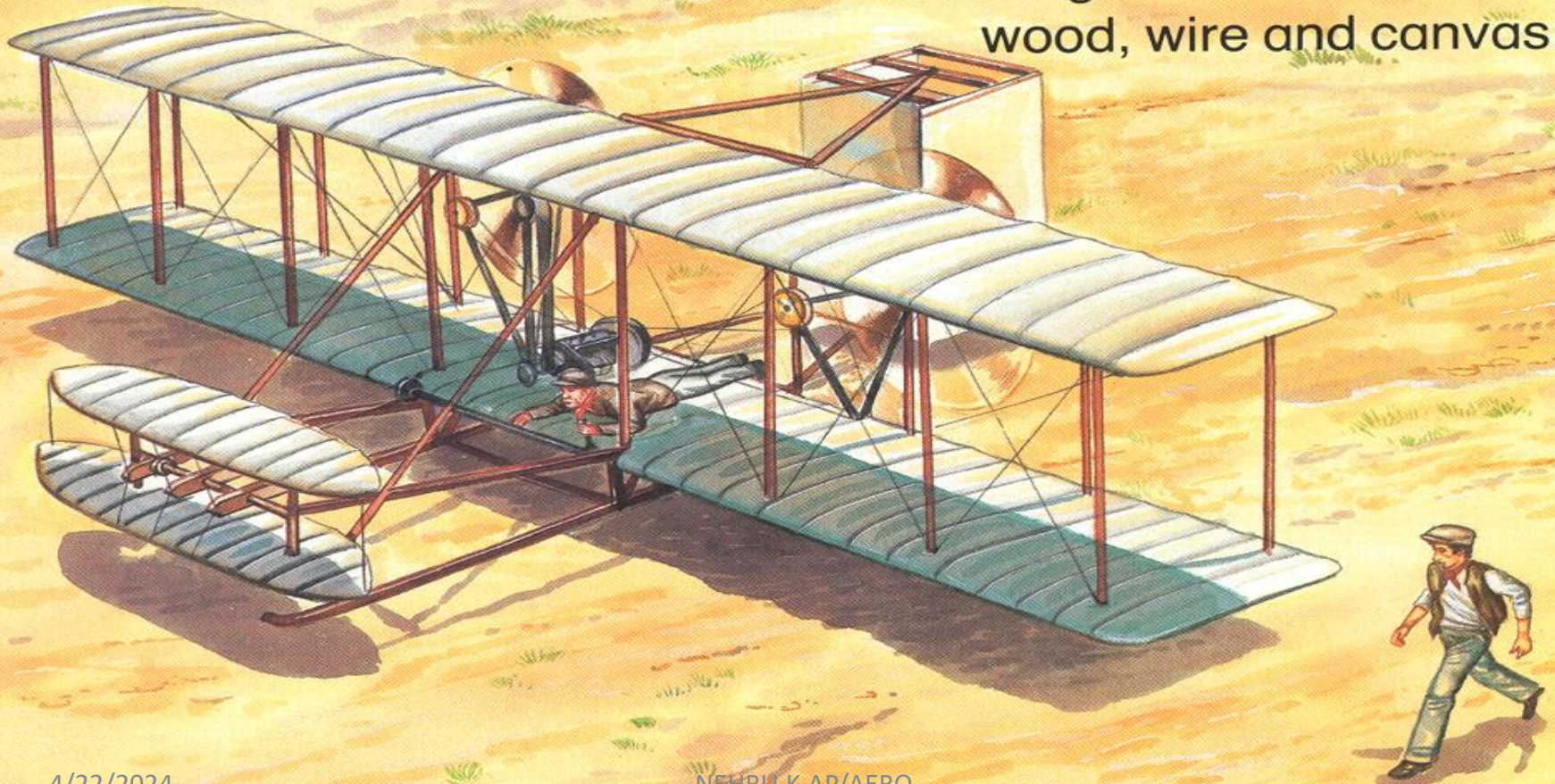
EARLY POWERED FLIGHT 1903-1914

- WRIGHT BROTHERS – ORVILE AND WILBER
– FIRST POWERED HEAVIER-THAN-AIR FLIGHT
DECEMBER 17, 1903



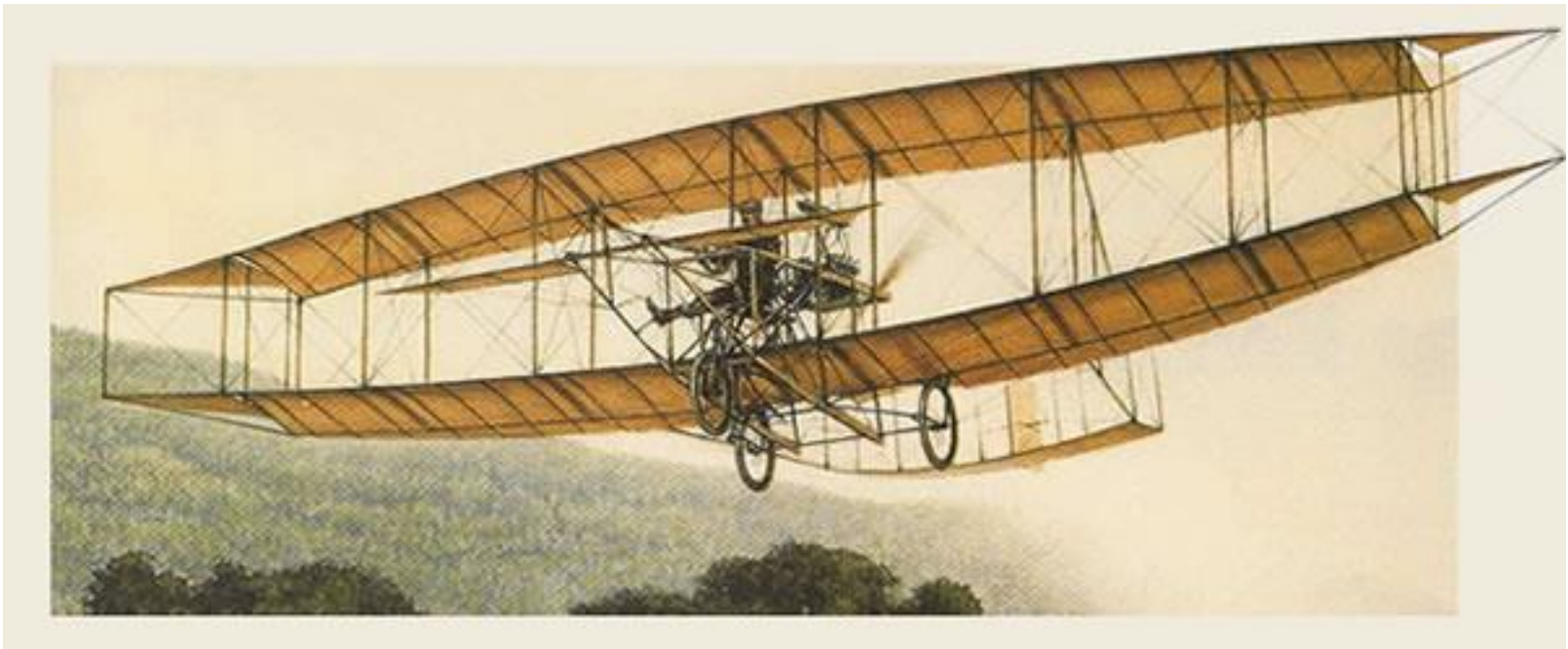
The first flyers

In 1903, an airplane called “Flyer 1” took off from a field in North Carolina. It flew for only 12 seconds and covered only 37 m (121 ft). But it was the first powered flight. “Flyer 1” was built by two brothers, Orville and Wilbur Wright. It was made of wood, wire and canvas.



EARLY POWERED FLIGHT 1903-1914

- GLEN CURTIS – 1878 TO 1930
 - INVENTER AILERON CONTROLS
 - MOTORCYCLE RACER



EARLY POWERED FLIGHT 1903-1914

- GLEN L MARTIN – 1886 TO 1955
– AIRCRAFT DESIGNER



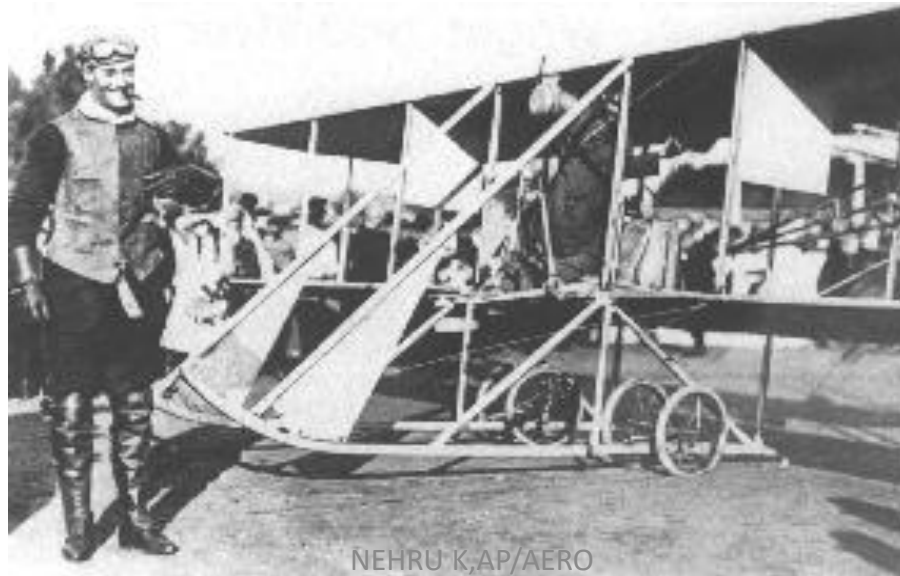
EARLY POWERED FLIGHT 1903-1914

- LOUIS BLERIOT – 1872 TO 1936
 - FRENCH INVENTOR
 - FIRST AIRCRAFT TO FLY ACROSS THE ENGLISH CHANNEL IN JULY 1909



EARLY POWERED FLIGHT 1903-1914

- CAL ROGERS – 1879 TO 1912
 - FIRST COAST TO COAST FLIGHT
 - 84 DAYS, SEPTEMBER 17, 1911 TO NOVEMBER 5, 1911
 - 74 LANDINGS, INCLUDING 12 CRASHES
 - AIRCRAFT CALLED “VIN FIZ” AFTER A GRAPE SOFT DRINK.
 - AIRCRAFT WAS A WRIGHT MODEL EX FLYER

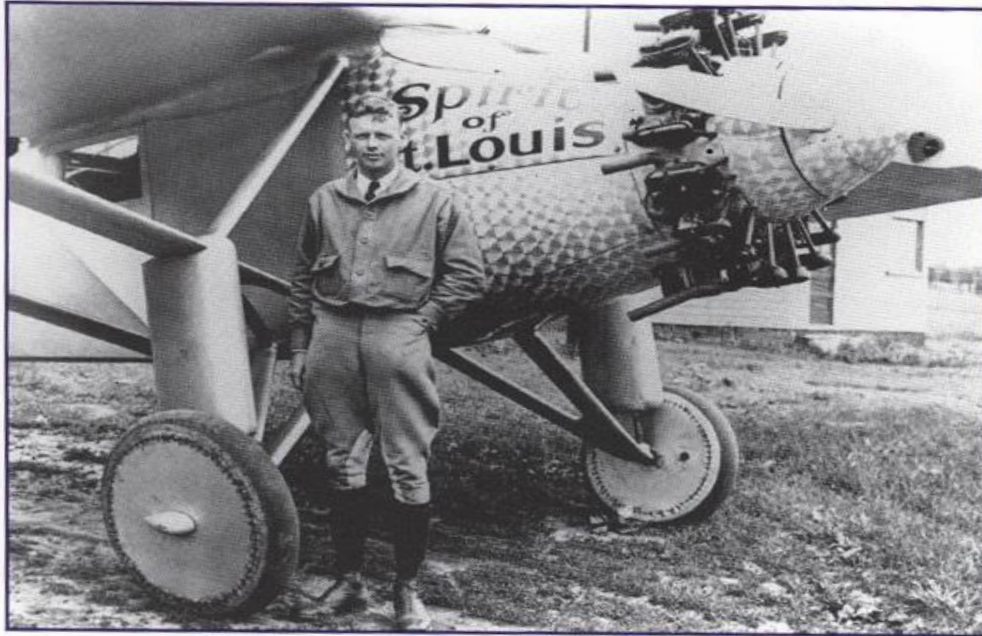


EARLY POWERED FLIGHT 1903-1914

- LINCOLN BEACHEY – 1887 TO 1915
 - RACED AGAINST BARNEY OLDFIELD'S RACE CAR AT COUNTY FARES



In the late 1800s, Orville and Wilbur Wright studied Lilienthal's theories. Then, they began inventing and testing heavier-than-air powered aircraft. The Wright brothers used a gasoline engine in their flying machine.



After his success, Charles A. Lindbergh continued working with airplanes. He flew all over the world charting new airline routes.

The first flight was on December 17, 1903. The airplane traveled 120 feet (37 m). This long-awaited first flight lasted 12 seconds. By the final flight of this historic day, the craft flew 852 feet (260 m) in just under one minute.

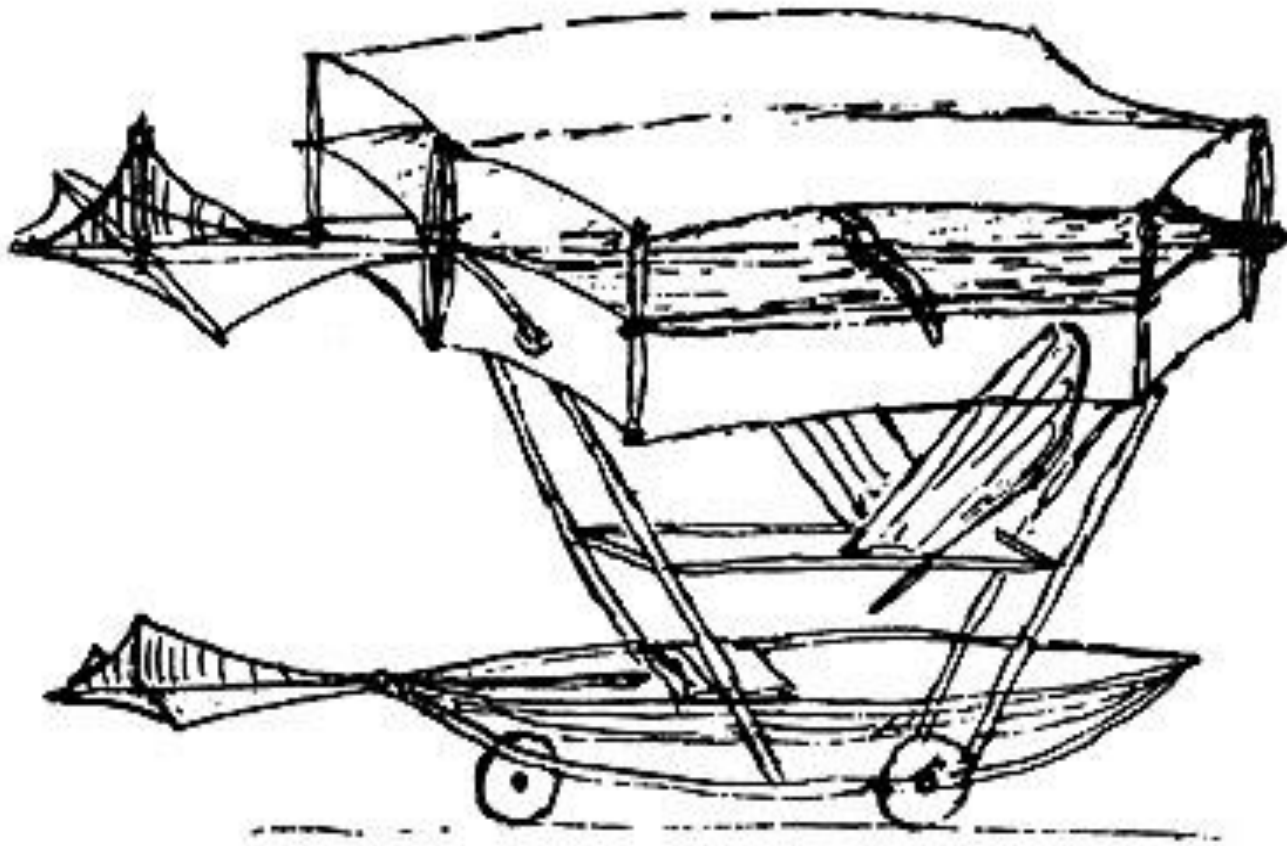
After this success, the science of flight advanced quickly. By the 1920s,

airplanes could fly much farther. In 1927, Charles A. Lindbergh flew the *Spirit of St. Louis* nonstop from an airfield near New York City, New York, to one near Paris, France. It was the world's first solo flight across the Atlantic Ocean.

Timeline

- 1783** Joseph-Michel and Jacques-Étienne Montgolfier's hot air balloon took flight with human passengers.
- 1853** Sir George Cayley invented the first glider that could carry a person.
- 1903** On December 17, Wilbur and Orville Wright flew the first heavier-than-air powered aircraft.
- 1927** Charles A. Lindbergh flew the first solo, nonstop flight from New York to France.
- 1932** Amelia Earhart became the first woman to fly solo across the Atlantic Ocean.
- 1957** By this year, more people were crossing the Atlantic Ocean by airplane than by ship.
- 1986** Dick Rutan and Jeana Yeager became the first people to fly around the world without stopping or refueling.

George Cayley Of The Monoplane Glider - 1848



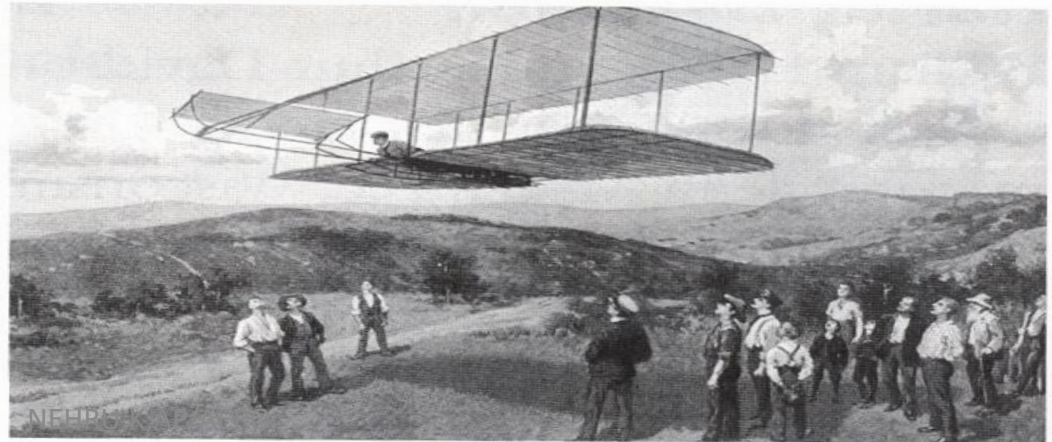
Inventors had been trying to make flying machines from as early as 400 B.C. Greek legends claim the Greek scholar Archytas built a wooden pigeon that moved through the air with steam. Since then, flying machines have come a long way.



Over the Sea
In 1927, U.S. aviator Charles Lindbergh piloted the first nonstop solo flight across the Atlantic Ocean. He flew from New York to Paris in 33.5 hours.

Flying Around

In 1903, Orville and Wilbur Wright designed the first successful airplane. Their first flight in North Carolina lasted twelve seconds.



Brilliant Boeings

In 1969, Boeing built the first 747 jet (*far left*) in Washington State. At the time, the 747 was the largest passenger airplane in the world. People called it the “Jumbo Jet.” The first 747 could carry more than four hundred people and could fly 640 miles (1,030 km) per hour. Many airplanes today are modeled after the 747 jet.

Concorde

In 1976, France’s Concorde was the world’s first airplane to fly passengers faster than the speed of sound. The **supersonic** Concorde was used until 2003, when they were taken out of service.



1903

The Wright brothers fly the first airplane.

1909

France’s Louis Blériot is the first to fly across the English Channel.

1927

Charles Lindbergh flies across the Atlantic Ocean.

1928

U.S. aviator Amelia Earhart is the first woman to fly across the Atlantic.

1939

German Hans von Ohain’s Heinkel He 178 is the first jet engine to fly.

1960

Hawker P.1127, in England, makes the first vertical takeoffs and landings.

2005

The Airbus A380 becomes the largest airplane in the world. It can carry more than 550 passengers.

SPACE AND BEYOND

- COMMERCIAL AIRLINERS WERE DEVELOPED TO BE MORE ECONOMICAL TO OPERATE. THESE AIRCRAFT INCLUDE THE BOEING 757/767/747-400 AND MCDONNELL-DOUGLAS MD-11.



SPACE AND BEYOND

- Military aircraft developed the new f-117 fighter and **B-2 bomber** to enter high threat military areas undetected by radar. These aircraft use their stealth characteristics for their protection.



- **Juhu Aerodrome** (ICAO: VAJJ) is located in **Juhu**, an upmarket residential suburb of **Mumbai**, India. It is used by small General Aviation aircraft and helicopters. Founded in 1928 as India's first civil aviation airport, **Juhu** served as the city's primary airport during and up to World War II.