

Definition

Business jet or private jet is a term describing a jet aircraft, usually of smaller size, designed for transporting groups of up to 19 business people or wealthy individuals. Some are used by public bodies, government officials or the armed forces.

Business Jets are divided into six classes:

- Heavy jets
- Large Cabin jets
- Super mid-size jets
- Mid-size jets
- Light jets
- Very light jets

ENGINES

The vast majority of the Business Jets are equipped with two or three engines. Four engine configurations are not used as there is no need for such a set up due to high reliability and power of modern engines. Even three engine arrangements are not very popular these days because of aforementioned reasons.



Turbofan engines are most commonly used in business jets.

Almost all business jets have rearmounted engines, because the wing (mounted low for performance reasons) is too near the ground for engines to be slung underneath it.

USERS

ETIETS

Business Jets are used by people who travel a lot and demand fast, reliable, comfortable and independent mean of transport. This includes company representatives, celebrities with a large entourage or press corps, sports teams, government officials or wealthy individuals.

Fractional ownership, also known as "time share" is becoming more and more popular nowadays. An individual or corporation pays an up front equity share for the cost of an aircraft, e.g. 1/3 of the aircraft price, known in the industry as a "third share". This reduces the costs of purchasing and maintaining an aircraft.

What are their expectations?



Advanced technologies

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Typical Construction

Dassault Falcon 900

Aircraft	Falcon 900
First Flight	1984
Capacity	19
Length	20.21 m
Height	7.55 m
Wingspan	19.33 m
Wing area	49 m ²
Max takeoff weight	20,640 kg
Cruise speed	950 km/h
Range	7,400 km
Cost (pre-owned)	\$18,000,000-\$40,000,000
Units Produced	260





Gulfstream IV

Aircraft	Gulfstream IV
First Flight	1985
Capacity	19
Length	26.9 m
Height	7.44 m
Wingspan	23.7 m
Max takeoff weight	33,200 kg
Cruise speed	850 km/h
Range	7,820 km
Cost	\$36 million
Units Produced	535





Bombardier Learjet 45

Aircraft	Learjet 45
First Flight	1995
Capacity	9
Length	17.68 m
Height	4.30 m
Wingspan	14.58 m
Wing area	28.95 m ²
Max takeoff weight	9,163 kg
Cruise speed	804 km/h
Range	3,167 km
Cost	\$11.5 million
Units Produced	Over 264





Embraer Phenom 100

Aircraft	Phenom 100
First Flight	2007
Capacity	6
Length	12.8 m
Height	4.4 m
Wingspan	12.3 m
Max takeoff weight	4,750 kg
Cruise speed	722 km/h
Range	2,182 km
Cost	\$3.6 million
Units Produced	199 (by the end of 2010)





Trend Analysis

Plane	First Flight	Maximum capacity	Range	Cruise speed	ΜΤΟΨ
				[km/h]	kg
Learjet 35	1973	8	3690	852	8235
Cessna Citation II	1977	8	3701	746	6849
Bombardier Challenger 600	1978	19	6236	851	19950
Dassault Falcon 900	1984	19	7400	950	20640
IAI 1125 Astra/Gulfstream 100	1984	9	5760	862	10660
Cessna Citation VII	1991	9	4110	881	10183
Cessna Citation X	1993	12	5956	972	16374
Cessna Citation Excel	1996	10	3441	815	9163
Embraer Legacy 600	2001	13	6060	740	22500
Hawker 4000	2001	12	6075	852	17917
Bombardier Challenger 300	2001	16	5741	850	17622
Gulfstream G450	2004	19	8060	850	33500
Gulfstream G550	2004	19	10700	904	38600
Embraer Phenom	2008	6	3658	722	7951
Learjet 45	2007	8	4828	829	15195
Gulfstream G650	2009	19	9260	956	45200

Range



Cruise speed



Maximum capacity



MTOW



Future of business jets

Length	30 m
Height	7.5 m
Wingspan	25 m
Max takeoff weight	32,000 kg
Cruise speed	850 km/h
Range	7,500 km
Capacity	15

Additional features:

- Short field takeoff and landing capability
- Lower fuel consumption
- Advanced technologies onboard
- Finer interior and increased comfort of travel

Thank you for your attention!