BOOM | Overture Commercial Economics

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Overture market opportunity snapshot

Serviceable Addressable Market (SAM)	**1,336 aircraft** (Airlines 1,121)
Airlines that fit customer profile	**30+**
Profitable Routes*	**700+**
Overture profitability vs. subsonic	**Up to 3X**

Increased asset utilization: 50% more trips per day on average than subsonic aircraft

Complementary to modern subsonic fleet: Increases premium passenger feed to existing airline network

Capitalizes on premium traffic: Premium passengers are willing to pay for speed, in some cases 100%+ more

*Routes are non-directional between airport pairs

Serviceable Addressable Market
(1,336 Aircraft)

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1,000+ aircraft opportunity

$315B

Market

700+

Profitable routes with significant time savings

$2#B

in orders and pre-orders

$32M

In US Air Force contracts. Partnership with Northrop Grumman.

Airlines 1,121 aircraft					
Private/Corporate 100 aircraft					
Government/Military 75 aircraft					
Cargo 40 aircraft					

Total SAM: 1,336 aircraft

0   250   500   750   1000
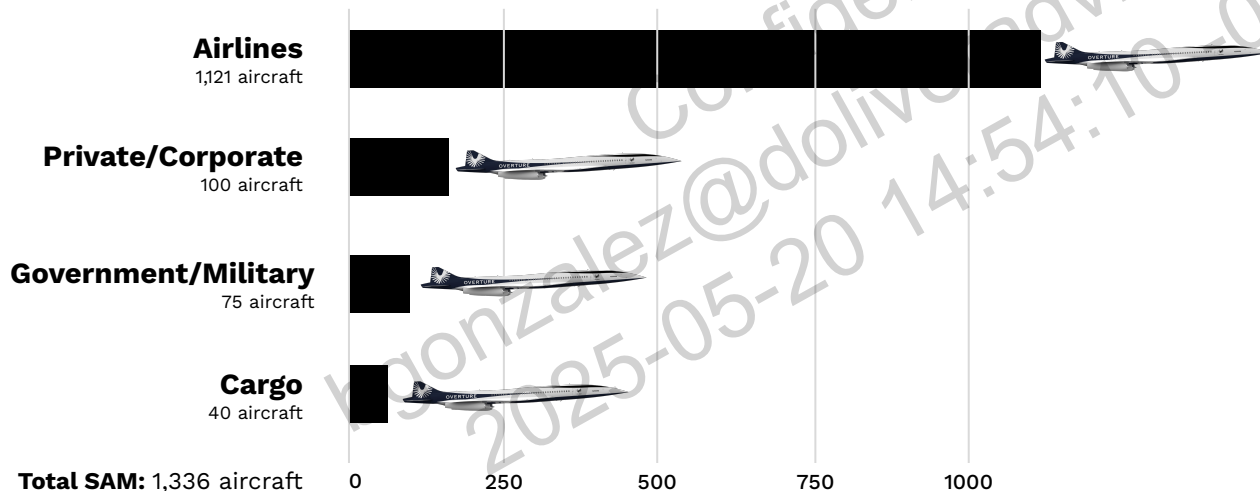
Total Addressable Market: # of Overture shells to address demand from a time savings and operational perspective

Serviceable Addressable Market: Subset of the TAM where Overture is expected to operate profitably

Airlines SAM sizing methodology

2023 avg daily premium seats-profitable routes >2.5 hrs[1]	102k per day
Regional CAGR in premium seats to 2039	190k per day
Overture configuration	64 seats per flight
Overture flights to meet daily demand	2,973
Overture daily block hrs & utilization	13.3k block hrs @ 13 hrs per day
Spare/Unscheduled aircraft	10% of scheduled aircraft
Serviceable Addressable Market	**1,121 aircraft**

190k
Daily premium seats

1,121
Overture aircraft

$265B
Serviceable addressable market from airlines

[1] OAG 2023 Premium Capacity, filtered to stations with Overture capable runways. Forecast based on 2039 demand.

Airlines SAM by region

Asia - Middle East
165 aircraft (14.7%)

Asia - Asia
196 aircraft
(17.5%)

Australia - Middle East
47 aircraft (4.2%)

Middle East - North America
50 aircraft (4.5%)

Europe - Middle East
60 aircraft (5.4%)

Europe - South America
42 aircraft (3.8%)

Asia - North America
100 aircraft (8.9%)

Africa - Middle East
38 aircraft (3.4%)

Asia - Australasia
33 aircraft (2.9%)

Australasia - North America
30 aircraft (2.7%)

Europe - North America
221 aircraft (19.7%)

1,121
total aircraft

Other[1]
139 aircraft
(14.6%)

[1]Other is the aggregation of regions of less than 2.7%

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Airlines SAM by city-pairs (select examples)

10+ Overture	
City-pair	**SAM Aircraft**
London and New York	24
Dubai and Sydney	17
Bangkok and Dubai	12
Los Angeles and Tokyo	11
Singapore and Tokyo	10
New York and Paris	10
New York and Tel Aviv	10
Bangkok and Seoul	10

5-9 Overture	
City-pair	**SAM Aircraft**
Los Angeles and Sydney	9
Hong Kong and Tokyo	9
San Francisco and Tokyo	8
Dubai and New York	8
Seoul and Singapore	8
Chicago and London	7
Los Angeles and Taipei	7
London and Miami	5

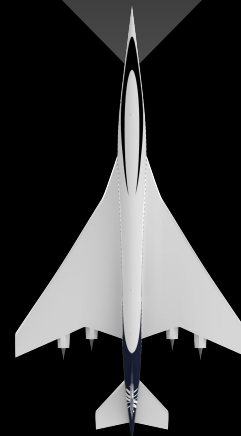| 1-4 Overture	
City-pair	**SAM Aircraft**
Zurich and New York	4
Dubai and Madrid	4
Doha and Jakarta	4
Los Angeles and Tokyo	4
Singapore and Tokyo	4
Honolulu and Tokyo	4
Frankfurt and Washington	4
Buenos Aires and Madrid	4

*City pairs include all applicable airports (i.e. NY represents EWR and JFK). Aircraft allocation shown is based on non-directional airport pair (i.e. value shown for New York JFK to London Heathrow also includes aircraft allocated London Heathrow to New York JFK)

Dynamic sonic boom prediction technology maximizes SAM

Boom's proprietary tool optimizes flight paths, driving efficiency and increasing time savings

- Dynamic Analysis Routing Tool (DART), our patented dynamic boom modeling tool, allows us to factor in weather and atmospheric conditions to understand sonic boom impacts and chart the most precise flight path, ensuring these sonic booms do not reach land.

- The result of this technology enables more efficient routing and improved operating economics in key markets such as the Middle East and Asia—all of which contributes to Overture's SAM.

- DART offers a distinct competitive advantage in supersonic flight routing and will grow in utility and marketability for use cases beyond Overture.

Dynamic modeling

Incorporates wind, altitude, density, heading, mach, temperature, speed of sound, and flight path angle

Overture profit vs. subsonic
(3X)

Overture yields up to 3x profitability for airlines

- Modest supersonic fare premium + more flights per aircraft = significant profitability boost

- Overture generates $47M in annual profit per airplane—3X that of a 787 on same route

- Overture time to payback 5-6 years vs. 9-10 years for widebody

JFK → LHR

New York to London Case Study

Revenue: $132,275 per flight
$2,584 one-way fare, 64 seats, 80% full

Operating Cost: $84,298 per flight
Includes fuel, maintenance, crew, catering, etc.

Annual profit per airplane: $47M
3 flights daily, 330 days per year

Based on representative JFK - LHR route assumes ~$5,200 round trip average fare for Overture, scheduled operations 330 days per year, 2 daily flights for 787-9 vs. 3 daily flights for Overture, 80% load factor on Overture, 82% on 787-9. 787-9 assumes 285 seats based on American Airlines LOPA

Higher utilization scales profitability and ROI

- The combination of greater speed and quicker turn times allows more flying with fewer aircraft than subsonic.

- The result is high asset utilization for the airline and convenient flight times for passengers.

- 2x/day Overture transatlantic flights while respecting all curfews and avoiding back-of-the-clock arrivals and departures.

- Overture profit grows with every flight, averaging 3 flights/day vs 2x/day for subsonic widebodies. Results in Overture delivering 50% more profit per route.

JFK to LHR Example			
A single aircraft completes 2 daily round trips			
	Depart Time	**Arrive Time**	**Total Block Time[1]**
Flight 1: **LHR – JFK**	**8:00**	**7:25**	**4:25**
Flight 2: **JFK – LHR**	**8:30**	**17:45**	**4:15**
Flight 3: **LHR – JFK**	**19:00**	**18:25**	**4:25**
Flight 4: **JFK – LHR**	**21:30**	**6:45**	**4:15**

[1]Block time is the duration of the trip; it starts when the aircraft first moves from the gate and ends when the aircraft reaches a destination gate.

Airlines that
fit customer profile
(30+)

30+ target customers worldwide

2024 Overture sales order and pre-order book

$26B order book: $7B firm, $19B pre-orders

	Airline	Status	Deal size	Next steps
Current Customers	United Airlines	Orders Pre-orders	15 orders + 35 pre-orders	On track to sign long-form Purchase Agreement by end of FY24
	American Airlines	Orders Pre-orders	20 orders + 40 pre-orders	On track to sign long-form Purchase Agreement by end of FY24
	Japan Airlines	Pre-orders	20 pre-orders	Convert pre-orders to orders in 2024

Our airline order agreements progress in two stages: an initial short-form agreement (which provides for initial deposits, pricing, etc.) and omits details such as performance guarantees and delivery positions. The second agreement is a long-form Aircraft Purchase Agreement which provides performance guarantees, delivery positions.

Future target aircraft orders

Near-term and mid-term opportunities

Actively engaged

Airline	Target deal size
Riyadh Air	20+
Saudia	20+
Icelandair	10+

Ongoing discussions

Airline	Target deal size
Lufthansa Group[1]	30+
Emirates	30+
Delta Air Lines	40+
Singapore Airlines	30+
Air Canada	15+

2024 Sales Focus

Airline	Target deal size
Virgin Atlantic	10+
Fiji Airways	10+
Qantas	20+
Air New Zealand	10+

2025 Sales Focus

Airline	Target deal size
Qatar Airways	30+
Air France	25+
IAG[2]	50+
Etihad	25+
KLM	10+
Alaska/ Hawaiian	10+

[1]Lufthansa Group airlines: Lufthansa, Swiss Air, Austrian Airlines, Brussels Airlines, Discover Airlines, Lufthansa Cargo
[2]IAG airlines: British Airways, Aer Lingus, Iberia, Level, Vueling, IAG Loyalty, IAG Cargo, IAG GBS

Overture target customers
Non-airline fleet opportunities

Fractional Jet Operators

NetJets

FlexJet

VistaJet

Sports/Entertainment/Leisure

Leagues & Teams

Premier League

F1 (Formula One)

LIV/PGA Tours

NFL, NBA, MLB, NHL FIFA

Leisure

Travelopia / TCS Travel

Smithsonian Travel

Abercrombie & Kent

Government[1]

US Air Force

US Special Operations Command

Royal Air Force (UK)

Royal Australian Air Force

Indian Air Force

Republic of Korea Air Force

French Air Force

Cargo

Amazon

FedEx

UPS

DHL

Cargolux

[1]*In partnership with Northrop Grumman*

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Profitable routes
(700+)

700+ profitable global routes

| 2x faster overwater, 20% faster over land | Profit with significant speed advantage | Increased aircraft and crew utilization |

NEW YORK TO FRANKFURT

4:15 h
Instead of 8:00h

TOKYO TO SEATTLE

4:30 h
Instead of 8:00h

LOS ANGELES TO SYDNEY
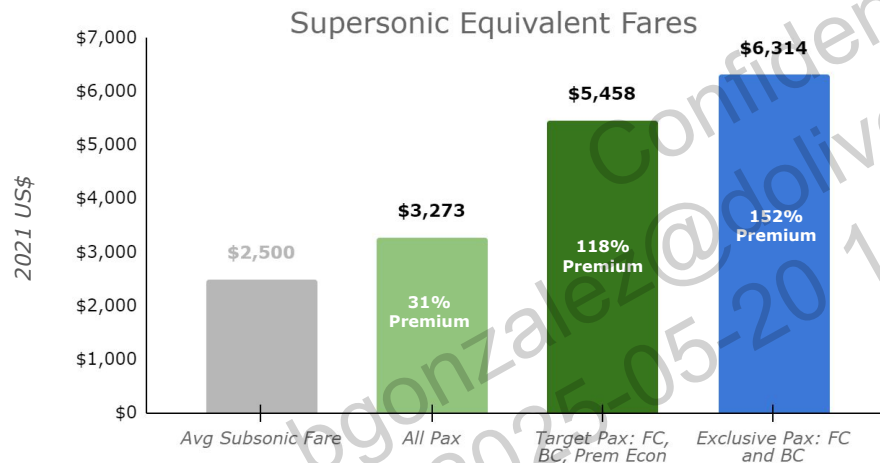
8:30 h
Instead of 14:30h

MIAMI TO MADRID

4:2...
Instead of...

Times shown are target flight times, not block times, and are subject to change. Mach 1.7 cruise over water, Mach 0.94 cruise over land.

Passengers will pay for supersonic

- 91% of target passengers would buy a supersonic ticket today

- Passengers who sometimes fly first/business would pay a significant premium for speed; passengers who fly only first/business are willing to pay even more

Supersonic Equivalent Fares

Chart (2021 US$):
- Avg Subsonic Fare: $2,500
- All Pax: $3,273 — 31% Premium
- Target Pax: FC, BC, Prem Econ: $5,458 — 118% Premium
- Exclusive Pax: FC and BC: $6,314 — 152% Premium

2021 Passenger Study: n=1000, Target passengers fly transoceanic 2x+/year (before COVID), flying a mix of premium economy, business class and first class. Exclusive passenger were a subset flying only first class and business class. US only.

Supersonic vs. subsonic fares

Modeled fares for speed advantage well within range of subsonic, passenger expectations

Route	Subsonic		Overture	
	Retail Fare[1]	Avg. Realized Fare[2]	Breakeven Fare	Modeled Fare
New York JFK to LHR	$1,486	$1,268	$1,695	$2,744
Tokyo to Los Angeles	$2,967	$1,874	$2,680	$3,337
Tokyo to Seattle	$7,250	$1,863	$2,303	$3,746
San Francisco to Tahiti	$3,366	$2,343	$1,929	$3,740
Baltimore to London LHR	$3,885	$1,878	$1,779	$3,267
Boston to Zurich	$4,780	$2,117	$1,858	$3,261
New York JFK to Geneva	$3,003	$1,899	$1,883	$3,469
New York EWR to Brussels	$3,806	$2,388	$1,836	$3,462
San Francisco to Osaka[3]	$5,600	$3,537	$2,723	$4,778
Los Angeles to Brisbane[3]	$6,050	$4,074	$3,567	$5,404

1. Retail fares from Google flights searched on Oct 6, 2023 for lowest half business class round trip price available for non-stop travel within 30 days.
2. Average realized retail fare from Cirium FMTraffic, average local for YE June 2023 3. Requires tech stop

Overture can operate profitably within existing networks

Example route below illustrates the overlap between today's fares,
the value of speed and the modeled fares used in the market assessment

Fare Data
Approx Range.; Cirium, Google flights

Current J Fares $2,847

One Way
IAD-AMS
Dulles International Airport   Schipol Amsterdam Airport

Average Fare $1,813

Research Data

$2,729
(Premium Economy+ Pax)

Willingness to Pay

$3,157
(First & Business Class Pax)

Modeled Fare $3,112

Calibrated Cost Data

$1,924 Break-even

After-Ownership Profitability*

$3,206 40% Margin

Expected Profitability

*Assumes 80% Load Factor; 2021 Passenger Study: n=1000, Target passengers fly transoceanic 2x+/year (before COVID), flying a mix of premium economy, business class and first class. Exclusive passenger were a subset flying only first class and business class. US only.
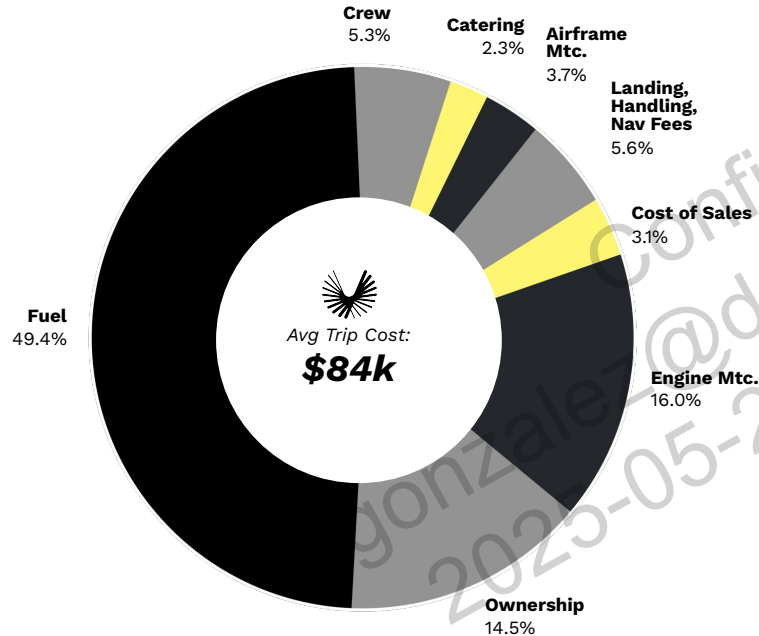
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Key cost assumptions (September 2023)

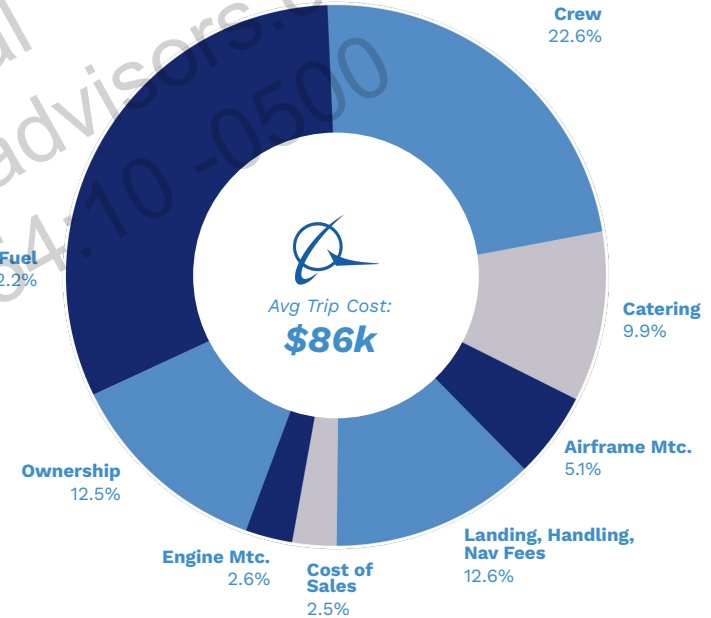| Cost	Units	Overture	Methodology/Explanation
Fuel	$ per gallon	$2.35	Based on FY 2023 IATA forecast of $98.50 per barrel for jet fuel
Airframe maintenance	$ per flight hour	$843	Using American and United costs on 787/777 fleets as a proxy. Cost data from DOT Form 41 YE 2Q23
Engine maintenance	$ per flight hour	$3,616	Internal modeling using inputs from FTT. Includes restoration shop visits and LLP replacement costs.
Flight crew	$ per block hour	$751	2 pilots, Average salary + benefits of $316k/year. 840 hours per year. Based on 4th year widebody rates & minimum contractual hours from United's JCBA ratified in Sep 2023
Cabin crew	$ per block hour	$309	4 Flight attendants, average salary + benefits of $70k. 840 hours per year. Pay based on current United contract. Annual hours estimated from multiple sources.
Navigation and overflight	$ per segment	$1,020	Based on over ocean fees of $26.51 per 100 nm and an average Overture flight distance of ~3,850 nm
Landing	$ per segment	$2,127	Vary by airport and aircraft maximum takeoff weight. Currently using an MTOW-based average.
Handling	$ per cycle	$1,580	$25 per seat per cycle, derived from ~$7.4k per segment for existing widebodies
Catering and PAX service	$ per segment	$1,920	$30 per seat per cycle, based on research for average price of a business class meal
Cost of sales	% of revenue	2%	Cost of sales varies with reservation system, travel agency, and credit card merchant fees. Percentage of revenue.
Aircraft acquisition	$ per unit	$236.5M	Full acquisition cost, including engines & interiors, model assumes 20 year depreciation to 10% of purchase price
Insurance	$ per block hour	$238	0.5% of total aircraft cost per year.

*Calibrated based on 2023 data

# Lower operating costs yield more net profit per flight

Overture JFK-LHR

Avg Trip Cost:
$84k

- Crew 5.3%
- Catering 2.3%
- Airframe Mtc. 3.7%
- Landing, Handling, Nav Fees 5.6%
- Cost of Sales 3.1%
- Engine Mtc. 16.0%
- Ownership 14.5%
- Fuel 49.4%

787-9 JFK-LHR

Avg Trip Cost:
$86k

- Crew 22.6%
- Catering 9.9%
- Airframe Mtc. 5.1%
- Landing, Handling, Nav Fees 12.6%
- Cost of Sales 2.5%
- Engine Mtc. 2.6%
- Ownership 12.5%
- Fuel 32.2%

15-year fuel price trends

Jet fuel prices remain volatile, but have averaged ~$2.20/gal over the last 15 years. Prices have spent significant periods of time near $3.00/gal, but also extended periods between $1.50 & $2.00/gal.
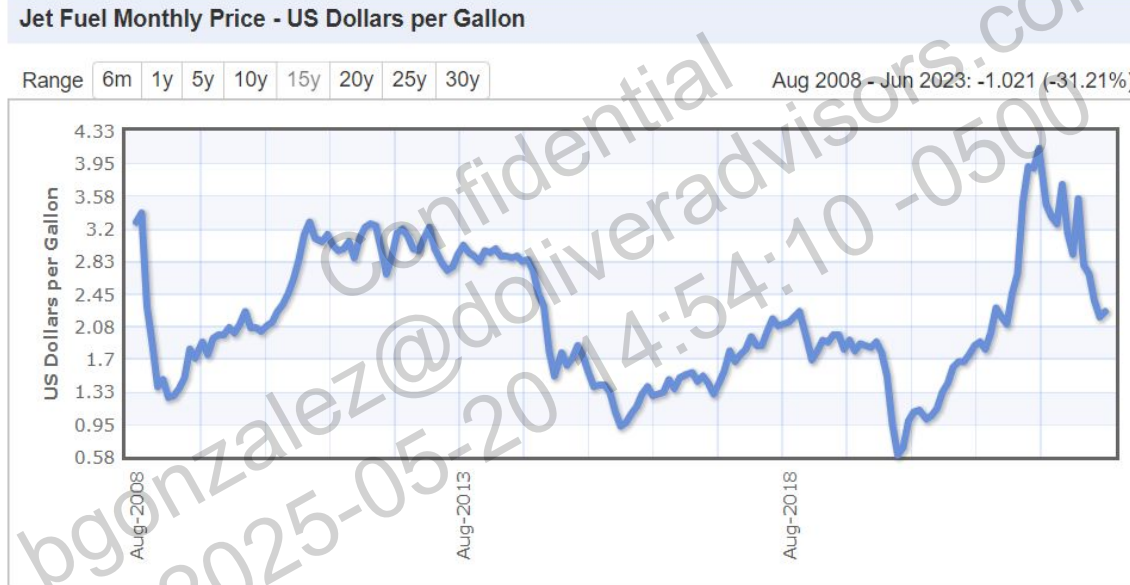
Source: https://www.indexmundi.com/commodities/?commodity=jet-fuel&months=180
(period shown is Aug 2008 to June 2023, time periods shown by link subject to change)

Fuel price sensitivity

	Fuel Price/gal[1]	Aircraft Demand[2]
10 yr Low $1.23	$1.50	1,333
10 yr Avg $2.22	$2.00	1,233
	$2.35[1]	**1,121**
	$2.50	1,050
	$2.75	929
	$3.00	805
10 yr High $3.87	$3.50	580
	$4.00	433

[1]Base case fuel price based on June 2023 IATA forecast for full year 2023 Jet A cost of $98.50/barrel- 10 year high/low based on quarterly fuel price DOT Form 41 data for AA, UA, DL, ending 2Q23 [2] Target year 2039

Sample Net Present Value (NPV) Analysis
Overture vs. 787-9 for Middle East customer

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Overture generates $100M more NPV than a 787-9 aircraft
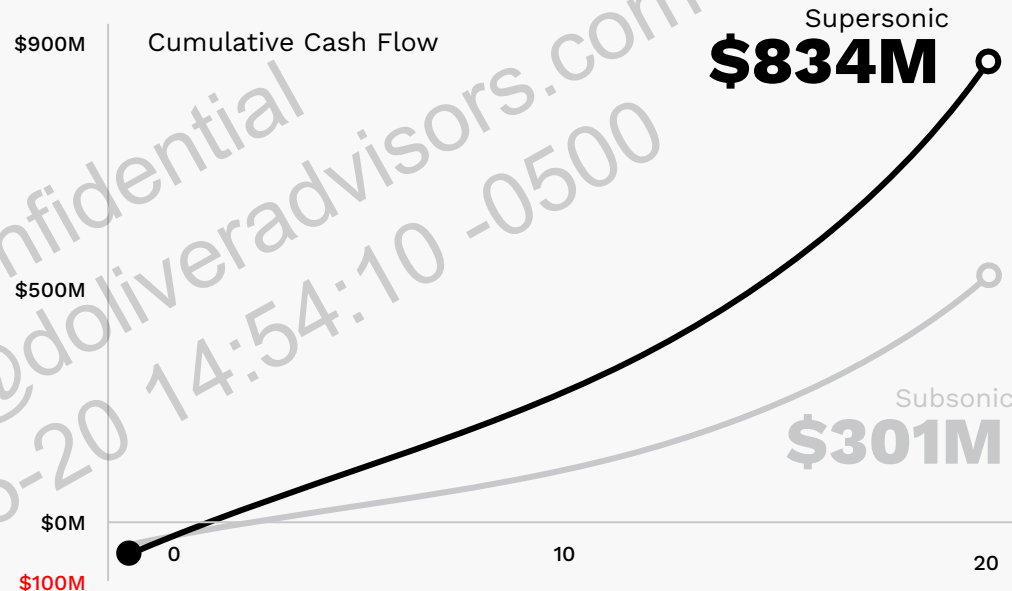
3x
Over 20 years, Overture generates nearly 3x the net operating profit of a 787-9

8x
At 12 years, Overture's NPV is almost 8x the NPV of a 787-9

NPV Year	Overture	787-9
12	$127M	$16M
20	$228M	$60M

Cumulative Cash Flow

$900M

$500M

$0M

$100M

0   10   20

Supersonic
$834M

Subsonic
$301M

Cumulative cash flow assumes 3% annual escalation of both revenue & costs.
Based on Boom proof of concept for a Middle East carrier

NPV comparison methodology: Overture vs 787-9 for a Middle East carrier

- Subsonic fare data was collected from aggregated regional data; Middle East to all major business destinations (LHR, JFK, CDG, SIN, etc), all cabins.

- A 787-9 based on Saudia's seat configuration was used as a proxy to model trip revenue using the fare data collected.

- US DOT Form 41 data for the 787-9 was used to approximate the trip cost based on average block hours.

- Overture revenue was modeled based on the business class fares identified above (first class fares were excluded). An average premium of 103% was added to the fare to account for the speed benefit (which was derived from Boom's internal methods that leverage various data sources).

- Overture trip cost is based on the same methodology that has been reviewed by multiple airlines. It takes into account fuel, crew, mtc, catering, sales & distribution, ground handling, navigation, etc.

- Overture utilization and market deployment was based on a Boom schedule* created and rotated from a Middle Eastern hub to major business destinations noted above plus 9 other Asian, European, and North American spokes. Same schedule used to generate subsonic utilization.

- Ownership for both aircraft assumes debt financing for 12 years.

*Schedule used for the analysis incorporated dynamic boom flight times and assumed corridors over the Arabian peninsula
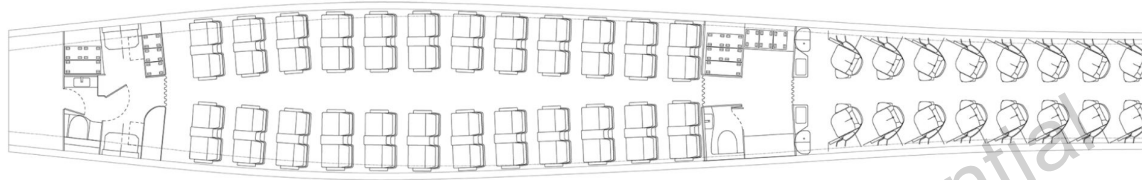
Commercial assumptions: Overture and 787-9

Overture Price	$235M*
787-9 Price	$155M*
% paid at delivery	20%
Term of debt financing	12 years
Interest rate	4%
Escalation rate	3%
Discount rate	10%
Overture trips per day	2.5

*2019 dollars including interior and options

LOPAs and revenue assumptions: Overture vs 787-9

Overture - Single Class Premium
BC seat count: 64
BC load factor: 80%
Avg RT J fare: $5,240 USD
Cargo revenue: $1,462 USD

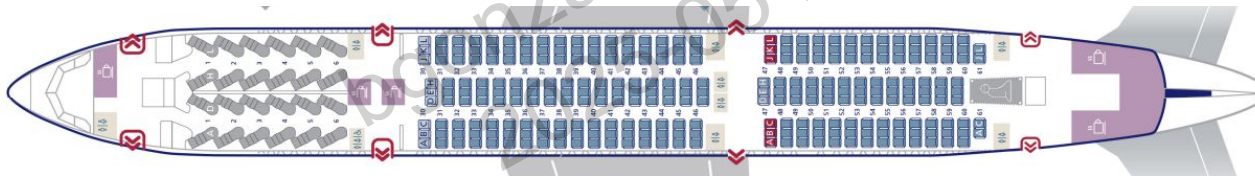**787-9 - Flat bed, Two Class***
BC seat count: 24
BC load factor: 80%
Avg RT J fare: $2,576 USD
Cargo revenue: $14,620 USD

EC seat count: 274
EC load factor: 90%
Avg RT fare: $544 USD

*Note this configuration includes a prayer room.

Cargo revenue is per trip, Currency conversion done using 3.75 SAR per 1 USD

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Thank You