

Apple's \$1.7bn Joint Venture with Globalstar



Head of Division: E. Wang

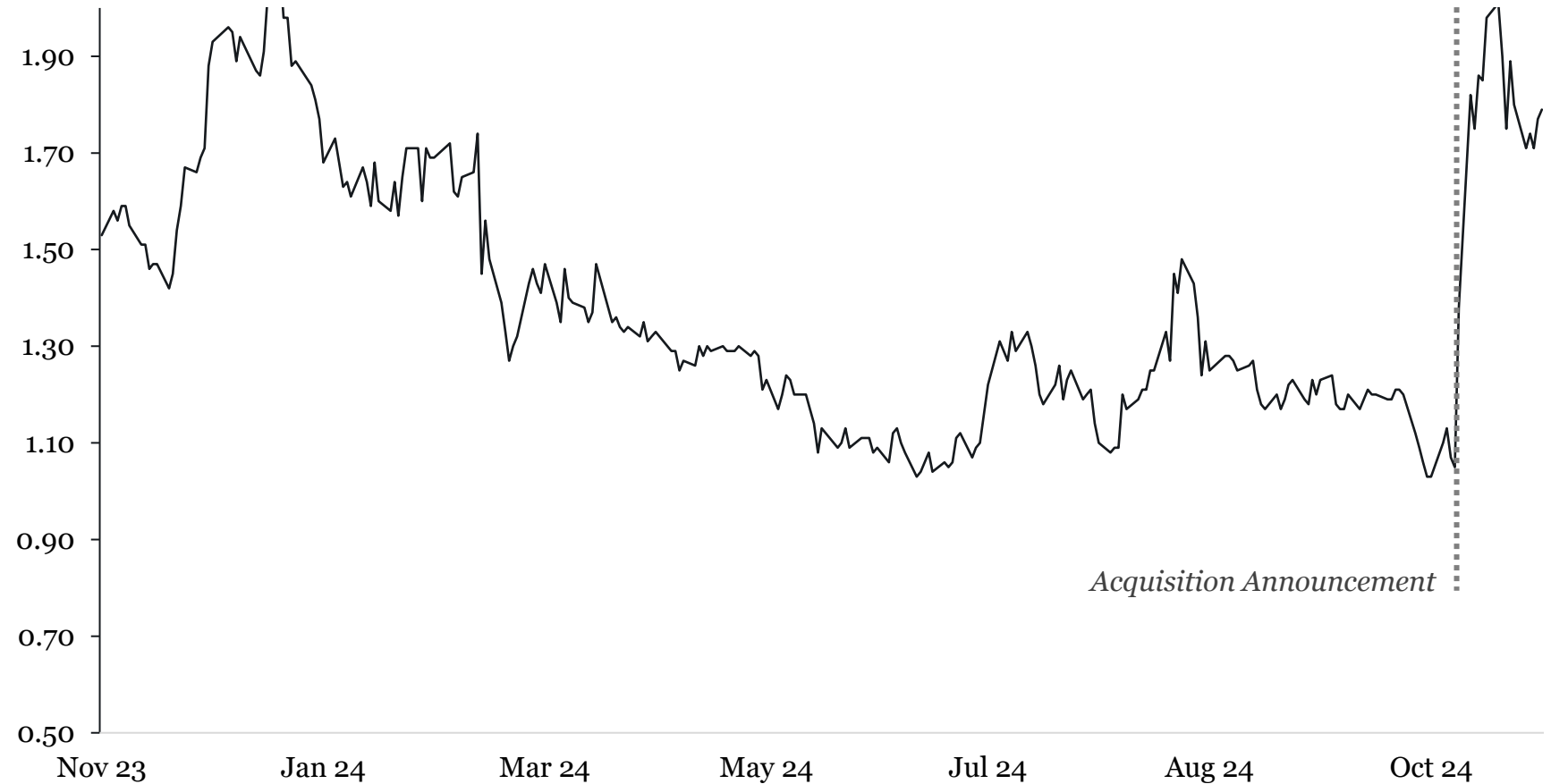
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Deal Details

\$1.7bn investment in Globalstar to build proprietary satellite network for Apple's iPhones

Globalstar's Share Price Jumps 30% Post-Acquisition Announcement

- On 1 Nov, Satellite operator Globalstar stock closed up more than 30% after disclosing Apple's plans to inject \$1.7bn for a new constellation to improve space-based communications for iPhones.
- Apple would take a 20% equity stake in the constellation for \$40mn, if the deal closes as expected Nov. 5, and make \$1.1 billion in staggered cash prepayments to the operator to help fund the network
- Globalstar is also getting about \$232 million from Apple to refinance debt due in 2029,
- Apple has been using Globalstar's current network of 31 L-band satellites since 2022 to enable its latest iPhones to access emergency services when terrestrial networks are unavailable.
- While this space-enabled capability now also includes basic texting, the low Earth orbit (LEO) network does not provide more bandwidth-hungry services such as voice and broadband. After Apple agreed to cover most of the costs to replenish the constellation in 2022, Globalstar awarded Canada's MDA a \$327 million contract to build 17 satellites, with options for up to nine additional satellites at \$11.4 million each. SpaceX is slated to begin launching those satellites next year.

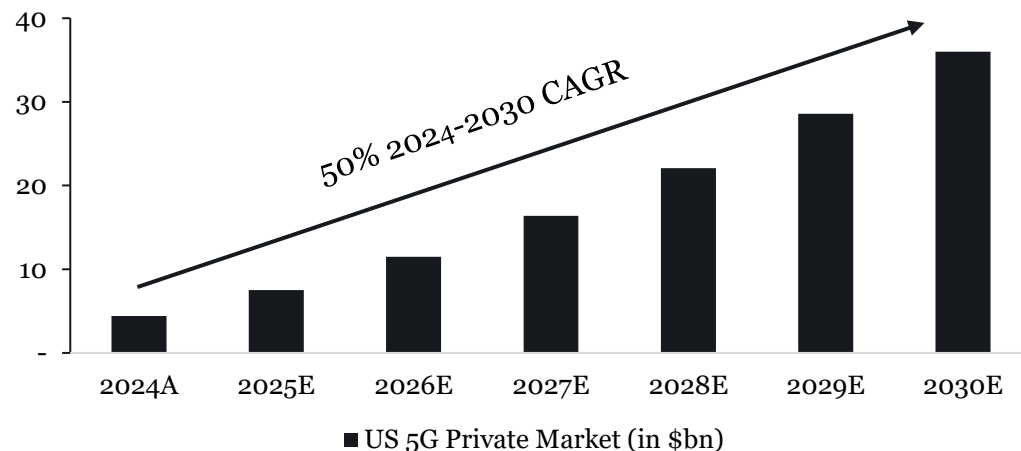


Deal Rationale

Integrating Globalstar's cutting-edge satellite network into Apple's leading portfolio of smart mobile devices

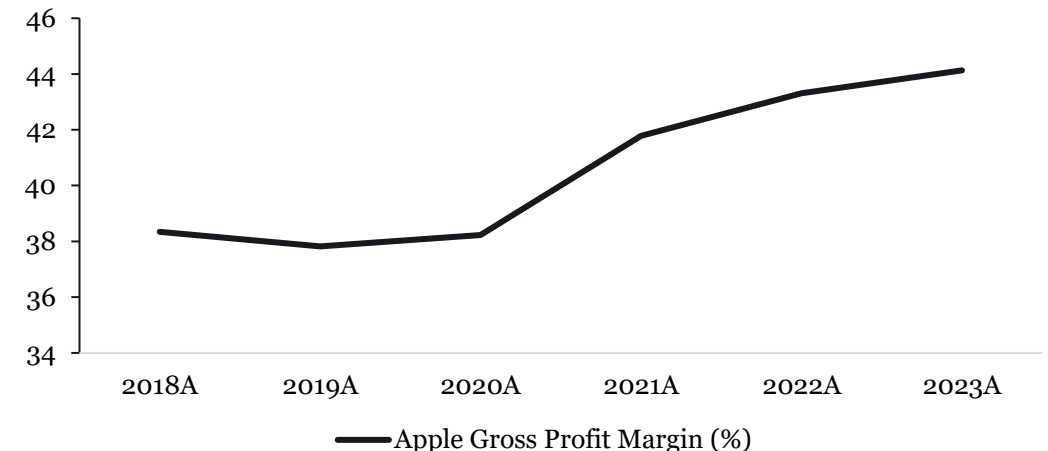
Customer & Strategic Benefits

- **Satellite Connectivity for iPhone Users:** Apple's investment will expand satellite coverage, ensuring iPhone users can access emergency and text messaging services outside traditional cellular networks. This aligns with Apple's ongoing commitment to safety and connectivity, a strategic differentiator for iPhone models that already feature emergency SOS functionality via satellite.
- **Competitiveness:** Google's recent collaboration with Skylo for satellite-based SOS functionality on its Pixel 9 series shows the growing competition in the satellite communication market. By expanding Globalstar's satellite infrastructure and network capacity, Apple strengthens its premium positioning in the market. By securing access to 85% of Globalstar's network capacity, Apple gains significant control over the network's use and functionality.
- **Future Satellite Services:** The creation of a designated "mobile satellite services" network provides Apple with an infrastructure platform for expanding into other satellite-based services, like real-time location tracking and possibly broader internet connectivity services, which could be introduced in future products and geographic regions.



Financial Benefits

- **Increased Demand for Premium iPhone Models:** This investment differentiates Apple's products, driving demand for higher-end iPhones that support satellite capabilities. The enhanced safety feature could justify higher pricing, boosting revenue.
- **Strategic Stake in Globalstar:** The \$400 million equity stake gives Apple a substantial 20% ownership in Globalstar. As Globalstar's services expand and attract more clients, Apple's equity value could increase, creating potential capital gains.
- **Cost Savings and Pricing Control:** By prepaying for services, Apple effectively locks in service costs, creating savings over time as usage grows. Apple's significant control over Globalstar's satellite infrastructure allows for flexibility in pricing these services, either subsidizing them for users or potentially monetizing certain features in the future.



Apple Inc. (NASDAQ: AAPL)



Technology Hardware, Storage and Peripherals

Business Overview

- Apple Inc., headquartered in Cupertino, California, is a global leader in consumer electronics, software, and services. Since its founding in 1976, Apple has revolutionized industries through innovative products and services, becoming synonymous with cutting-edge technology, elegant design, and a seamless ecosystem. Its mission centers on delivering transformative user experiences and driving technological innovation.

Key Business Segments

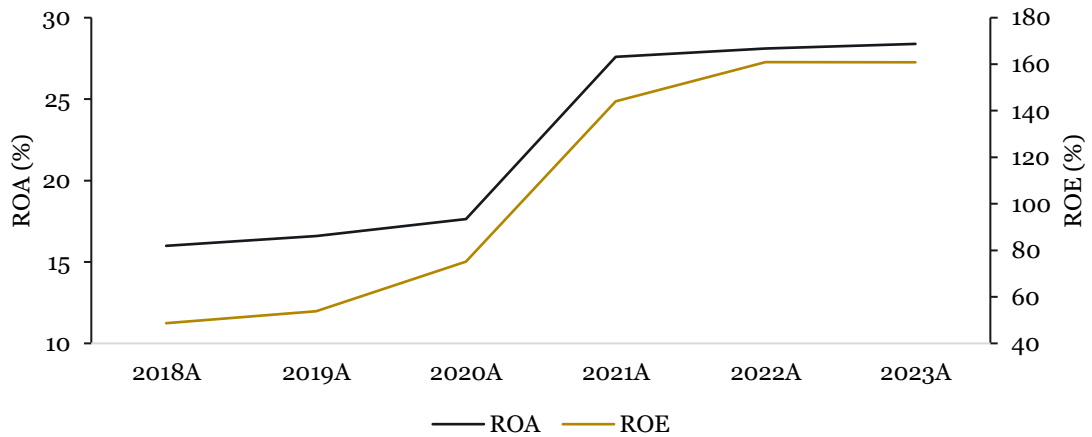
- iPhone:** The cornerstone of Apple's product portfolio, consistently driving customer engagement and loyalty.
- Mac:** A lineup of high-performance computers catering to both professional and personal use.
- iPad:** Versatile tablets used across education, enterprise, and entertainment sectors.
- Wearables, Home, and Accessories:** Including Apple Watch, AirPods, and smart home devices, this segment supports Apple's ecosystem growth.
- Services:** Apple's fastest-growing segment, encompassing the App Store, Apple Music, iCloud, and Apple Pay, alongside streaming services like Apple TV+.

Recent Developments

- Artificial Intelligence:** The introduction of "Apple Intelligence" enhances core product experiences through advanced AI functionalities like personalized suggestions, photo editing, and smarter Siri interactions.

Key Financials (as of 18 November 2024)*

Market Capitalisation	3,400,000	FY2024 EBITDA	134,660
Share Price	\$225.00	TTM Diluted EPS	\$6.08
FY2024 Revenue	391,030	TTM Price/EPS	37x
FY2023 Net Income	93,740	TEV/LTM EBITDA	26x



* In mn unless otherwise stated



Business Overview

- Globalstar is a prominent player in the telecommunications industry, specialising in mobile satellite services (MSS). The 33-year-old firm has established a low Earth orbit (LEO) constellation of 48 satellites, allowing for reduced latency & live voice/data transmission across the globe, 24/7. This impressive portfolio could be particularly synergetic with Apple’s iPhone products, facilitating a greater quality and reach of satellite connections.

Key Business Segments

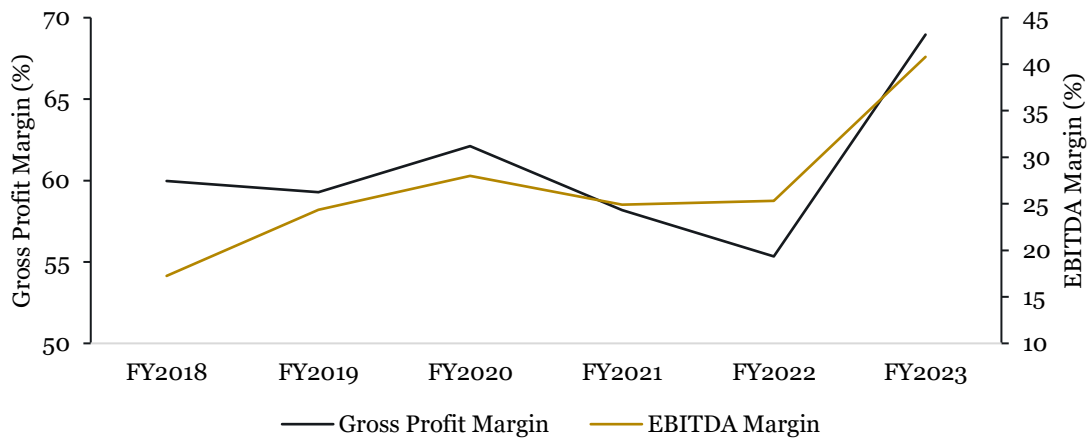
- Wholesale Capacity Services:** Globalstar’s revenue primarily (roughly 50%) stems from its Wholesale Capacity Services, in which it leases aspects of its impressive satellite constellation to third parties.
- SPOT Services:** SPOT is a unique service offered by Globalstar; SPOT is a GPS device offered through subscription which accounts for nearly 20% of the firm’s AR. The device enables basic satellite communications for emergency services (SOS, applicable to Apple), stealth operations, outdoor adventurers, and remote workers.
- IoT:** Internet of Things (IoT) accounts for around 10% of Globalstar’s revenue, the firm is a global leader in satellite-based IoT. IoT is the established network of devices & objects that are connected to the internet that collect, share, and act upon data. To date, this market is valued at \$1.2bn with industry CAGR forecasts at 14.6% from 24’ to 30’.

Recent Developments

- Future Expansion:** With its new constellation expected to more than double revenue upon completion, Globalstar is also exploring ways to leverage its remaining network capacity for additional services and innovations

- Key Financials (as of 18 November 2024)*

Market Capitalisation	3,610	FY2024 EBITDA	84
Share Price	\$1.89	TTM Diluted EPS	(\$0.02)
FY2024 Revenue	241	TTM Price/EPS	NA
FY2024 Net Income	(28)	TEV/LTM EBITDA	46x



* In mn unless otherwise stated

Apple Discounted Cash Flow Analysis (I) – Weighted Average Cost of Capital (WACC)

WACC Calculation & Sensitivity

	Base	Low	High
Cost of Debt	5.00%	5.00%	5.00%
Tax Rate	15.00%	15.00%	15.00%
Debt to Total Cap.	67.64%	67.64%	67.64%
After Tax Cost of Debt	4.25%	4.25%	4.25%
Risk Free Rate	4.47%	4.47%	4.47%
Expected Market Return	12.00%	10.00%	14.00%
Market Risk Premium	7.53%	5.53%	9.53%
Levered Beta	1.21	1	1.5
Equity to Total Cap.	32.36%	32.36%	32.36%
Cost of Equity	13.58%	10.00%	18.77%
WACC	7.27%	6.11%	8.95%

Cost of Equity

		Market Return		
		10%	12%	14%
Levered Beta	1	10.0%	12.0%	14.0%
	1.25	11.4%	13.9%	16.4%
	1.5	12.8%	15.8%	18.8%

WACC

		Market Return		
		10%	12%	14%
Levered Beta	1	6.1%	6.8%	7.4%
	1.25	6.6%	7.4%	8.2%
	1.5	7.0%	8.0%	8.9%

Commentary

The Weighted average cost of Capital (WACC) was used as the discount rate in the Discounted Cash Flow model. The following points encapsulate its decomposition.

- The after-tax Cost of Debt was obtained by multiplying Apple's interest expense by $1-T$, where T denotes the effective tax rate.
 - 5% interest rate is assumed on Apple's existing debt, in line with wall street consensus for the following 6 fiscal years.
 - Apple's effective tax rate is assumed to be 15%, in light of recent political developments, a 22% decline from its FY2023 rate. The resulting after-tax cost of debt is 4.25%.
- The cost of Equity was obtained by adding the Beta times the market risk premium to the risk-free rate.
 - Using the Yield on the 10-year US Treasury Note, derives a 4.47% Risk-Free Rate, which is expected to remain stable as rising spreads are offset with falling central bank interest rates cross the western world.
 - A base case of a 12% expected market return is used, in line with wall street consensus on future long-term returns exhibited by major US indices such as the S&P 500, and the S&P 500's 20-year average return of 11.3%. This figure is adjusted +/- 2% in the sensitivity analysis that follows the WACC calculation.
 - A levered Beta figure of 1.21 was obtained by considering Apple's 3-year average. This figure has displayed significant variation YoY, remaining confined within the 1-1.5 range. Hence this range was used in the sensitivity analysis.
 - The corresponding base cost of equity is 13.58%. This results in a WACC figure of 7.27%.

1. $WACC = \text{Equity to Total Cap.} * (R_f + \beta(R_m - R_f)) + \text{Debt to Total Cap.} * \text{Cost of Debt} * (1 - T)$, where T is the effective tax rate.
2. The Risk-Free Rate is obtained from the 10-Year US Treasury Bond Yield at the time of writing (16/11/2024).

Apple Discounted Cash Flow Analysis (II) – Free Cash Flow to Firm (FCFF)

\$'s	2022A	2023A	2024A	2025F	2026F	2027F	2028F	2029F	2030F
Total Revenue	394,330	383,285	391,035	414,536	447,989	483,828	522,535	564,337	609,484
Total Cost of Revenue	220,825	210,807	211,159	215,559	223,995	232,238	240,366	248,308	255,983
Total Gross Profit	173,505	172,478	179,876	198,977	223,995	251,591	282,169	316,029	353,501
SG&A	25,094	24,932	26,097	29,018	31,359	33,868	36,577	39,504	42,664
Research and Development Expenses	26,251	29,915	31,370	33,163	35,839	38,706	41,803	45,147	48,759
Total Operating (Income)/Expenses	51,345	54,847	57,467	62,180	67,198	72,574	78,380	84,651	91,423
EBIT	122,160	117,631	122,409	136,797	156,796	179,017	203,789	231,378	262,078
Income tax expense	19,790	17,292	29,378	20,520	23,519	26,852	30,568	34,707	39,312
Effective tax rate	16.20%	14.70%	24.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Net Income									
NOPAT	102,370	100,339	93,031	116,277	133,277	152,164	173,220	196,672	222,767
Capital Expenditure	11,830	11,499	7,821	12,436	13,440	14,515	15,676	16,930	18,285
Depreciation & Amortization	11,065	11,509	11,446	10,363	11,200	12,096	13,063	14,108	15,237
Net Working Capital	(44,108)	(45,995)	(28,264)	(25,379)	(24,605)	(22,712)	(20,459)	(19,013)	(18,000)
Change in Net Working Capital:	(7,953)	(1,887)	17,731	2,885	774	1,893	2,253	1,446	1,013
Unlevered Free Cash Flow (FCFF)	109,559	102,236	78,925	111,320	130,263	147,852	168,355	192,404	218,706
Discount Year				1	2	3	4	5	6
Unlevered FCF (FCFF)				111,320	130,263	147,852	168,355	192,404	218,706
Present Value Unlevered FCF (FCFF)				103,775	113,205	119,782	127,149	135,464	143,546

All numbers in millions, unless otherwise stated, US\$

Apple Discounted Cash Flow Analysis (III) – Valuation

Valuation

Total Equity	56,950
Total Debt	119,059
Net Debt	37,591
Perpetuity Growth Rate	4.00%
WACC	7.27%
Mid-Year Convention	-
Sum of the Present Value FCFF	742,920
Terminal Value	4,565,380
Present Value Terminal Value	2,996,451
Enterprise Value	3,739,372
Net Debt	37,591
Equity Value	3,701,781
Diluted Shares Outstanding	15,408
Implied Share Price	240.25

Commentary

- Revenue projections were anchored at an 8% growth rate, leveraging historical trends, management guidance from Apples latest 10K filings and Analyst projections relating to the impact of Apple's Artificial Intelligence related endeavours on its top line.
 - COGS, SG&A, and R&D expenses were forecasted to rise proportionally with revenue, while Depreciation, amortization, and CapEx were projected based on 5-year historical averages.
 - Operating current assets were projected on a straight-line basis, informed by historical margins. This framework facilitated a precise projection of net working capital, and by extension, unlevered free cash flow.
 - Incorporating an after-tax cost of debt of 4.25% and cost of equity of 13.58% yields a WACC of 7.27%, which is used as the base case.
 - Net debt amounted to approximately \$37.6bn, bridging the enterprise and equity values (\$3.74Tn and \$3.70Tn respectively). This gave rise to an implied share price of \$240.25, a 7% premium compared to the quoted stock price of \$225.00 at the time of writing.
- The quoted stock price at the time of writing (16/11/2024) reflects the final closing price of NASDAQ: AAPL at 225.00 (15/11/2024).*
 - The Risk-Free Rate is obtained from the 10-Year US Treasury Bond Yield at the time of writing (16/11/2024).*

All numbers in millions, unless otherwise stated, US\$

Apple Discounted Cash Flow Analysis (IV) – Illustrative Sensitivity Scenario

Implied Share Price Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	6.97%	221.79	234.89	250.03	267.71	288.65	313.82	344.66
	7.07%	215.13	227.40	241.52	257.94	277.28	300.37	328.45
	7.17%	208.81	220.33	233.53	248.81	266.71	287.96	313.60
	7.27%	202.83	213.65	226.00	240.25	256.86	276.46	299.95
	7.37%	197.15	207.33	218.91	232.22	247.65	265.78	287.36
	7.47%	191.75	201.34	212.22	224.66	239.04	255.84	275.73
	7.57%	186.61	195.66	205.88	217.54	230.96	246.56	264.93

Enterprise Value Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	6.97%	3,454,991	3,656,849	3,890,052	4,162,514	4,485,062	4,872,902	5,348,094
	7.07%	3,352,247	3,541,361	3,758,956	4,011,990	4,309,888	4,665,743	5,098,291
	7.17%	3,254,972	3,432,409	3,635,787	3,871,243	4,147,017	4,474,434	4,869,499
	7.27%	3,162,755	3,329,469	3,519,864	3,739,372	3,995,221	4,297,254	4,659,213
	7.37%	3,075,222	3,232,071	3,410,584	3,615,582	3,853,432	4,132,720	4,465,307
	7.47%	2,992,039	3,139,793	3,307,406	3,499,171	3,720,713	3,979,551	4,285,971
	7.57%	2,912,901	3,052,255	3,209,849	3,389,515	3,596,240	3,836,633	4,119,648

Implied Adj. Terminal EBITDA Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	6.97%	25.66	27.16	28.89	30.91	33.31	36.19	39.72
	7.07%	24.89	26.30	27.91	29.79	32.01	34.65	37.86
	7.17%	24.17	25.49	27.00	28.75	30.80	33.23	36.16
	7.27%	23.49	24.72	26.14	27.77	29.67	31.91	34.60
	7.37%	22.84	24.00	25.33	26.85	28.62	30.69	33.16
	7.47%	22.22	23.32	24.56	25.99	27.63	29.55	31.83
	7.57%	21.63	22.67	23.84	25.17	26.71	28.49	30.59

Note: The highlighted share price figures subsequently guide the DCF valuation range in the valuation summary.

Globalstar Discounted Cash Flow Analysis (I) – WACC

US\$

WACC Calculation & Sensitivity

	Base	Low	High
Cost of Debt	5.00%	5.00%	5.00%
Tax Rate	1.85%	1.85%	1.85%
Debt to Total Cap.	51.04%	51.04%	51.04%
After Tax Cost of Debt	4.91%	4.91%	4.91%
Risk Free Rate	4.47%	4.47%	4.47%
Expected Market Return	9.00%	7.00%	11.00%
Market Risk Premium	4.53%	2.53%	6.53%
Levered Beta	0.89	0.64	1.14
Equity to Total Cap.	48.96%	48.96%	48.96%
Cost of Equity	8.50%	6.09%	11.91%
WACC	6.67%	5.49%	8.34%

Cost of Equity

		Market Return		
		7%	9%	11%
Levered Beta	1.17	12.3%	14.6%	16.8%
	1.41	14.0%	16.8%	19.5%
	1.67	15.8%	19.1%	22.3%

WACC

		Market Return		
		7%	9%	11%
Levered Beta	1.17	8.5%	9.7%	10.8%
	1.41	9.4%	10.7%	12.0%
	1.67	10.3%	11.9%	13.4%

Commentary

The Weighted average cost of Capital (WACC) was used as the discount rate in the Discounted Cash Flow model. The following points encapsulate its decomposition.

- The after-tax Cost of Debt was obtained by multiplying Apple's interest expense by $1-T$, where T denotes the effective tax rate.
 - 5% interest rate is assumed on Globalstar's existing debt, in line with wall street consensus for the following 6 fiscal years.
 - Globalstar's effective tax rate is assumed to be 1.85% based on past data, resulting in an after-tax cost of debt of 4.91%.
- The cost of Equity was obtained by adding the Beta times the market risk premium to the risk-free rate.
 - Using the Yield on the 10-year US Treasury Note, derives a 4.47% Risk-Free Rate, which is expected to remain stable as rising spreads are offset with falling central bank interest rates cross the western world.
 - A base case of a 9% expected market return is used, in line with wall street consensus on future long-term returns exhibited by major US indices such as the S&P 500. This figure is adjusted +/- 2% in the sensitivity analysis that follows the WACC calculation.
 - A levered Beta figure of 0.89 was obtained by considering Globalstar's 5-year average. This figure has displayed significant variation YoY, remaining confined within the 0.75-1.25 range. Hence this range was used in the sensitivity analysis.
 - The corresponding base cost of equity is 6.67%. Due Globalstar debt dominant capital structure, with the Debt to total capitalisation ratio of 51.04%, this results in a WACC figure of 6.67%.

1. $WACC = Equity\ to\ Total\ Cap. * (R_f + \beta(R_m - R_f)) + Debt\ to\ Total\ Cap. * Cost\ of\ Debt * (1 - T)$, where T is the effective tax rate.
2. The Risk-Free Rate is obtained from the 10 Year US Treasury Bond Yield at the time of writing (16/11/2024).

Globalstar Discounted Cash Flow Analysis (II) - FCFF

\$'s	2022A	2023A	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Total Revenue	148,504	223,808	253,218	286,492	324,139	366,733	414,924	469,447	531,136
Total Cost of Revenue	66,320	69,472	99,318	112,369	127,135	143,842	162,744	184,129	208,325
Total Gross Profit	82,184	154,336	153,899	174,123	197,003	222,891	252,180	285,318	322,811
SG&A	33,849	40,558	69,798	78,970	89,347	101,088	114,371	129,400	146,404
Research and Development Expenses	500	1,400	2,874	3,252	3,679	4,162	4,709	5,328	6,028
Total Operating (Income)/Expenses	34,349	41,958	72,672	82,222	93,026	105,250	119,081	134,729	152,433
EBIT	47,835	112,378	81,227	91,901	103,978	117,641	133,100	150,590	170,378
Income tax expense	885	2,079	1,503	1,700	1,924	2,176	2,462	2,786	3,152
Effective tax rate	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%	1.85%
Net Income									3
NOPAT	46,950	110,299	79,725	90,201	102,054	115,464	130,637	147,804	167,226
Capital Expenditure	39,309	174,515	48,993	58,296	69,198	81,958	96,877	114,302	134,633
Depreciation & Amortization	93,884	88,191	166,166	182,272	199,741	218,653	239,087	261,116	284,805
Net Working Capital	77,075	140,167	173,705	215,269	266,777	330,610	409,716	507,750	629,242
Change in Net Working Capital:	-81,097	63,092	33,538	41,563	51,508	63,833	79,106	98,034	121,492
Unlevered Free Cash Flow (FCFF)	182,622	-39,117	163,360	172,614	181,089	188,327	193,741	196,583	195,907
Discount Year									
Unlevered FCF (FCFF)				172,614	181,089	188,327	193,741	196,583	195,907
Present Value Unlevered FCF (FCFF)				161,825	159,159	155,174	149,658	142,362	133,004

All numbers in thousands due to size of Globalstar relative to Apple, unless otherwise stated, US\$

Globalstar Discounted Cash Flow Analysis (III) - Valuation

Valuation

Equity	386,752	386,752	386,752
Total Debt	403,217	403,217	403,217
Net Debt	338,899	338,899	338,899

Perpetuity Growth Rate	4.00%
WACC	6.67%
Mid-Year Convention	-

Sum of the Present Value FCFF	901,181
Terminal Value	5,186,233
Present Value Terminal Value	3,521,016
Enterprise Value	4,422,198
Net Debt	338,899
Equity Value	4,083,299
Diluted Shares Outstanding	1,892,373
Implied Share Price	2.16

Commentary

- Revenue projections assume a 13% growth rate, supported by historical performance of last 5-year and management guidance as outlined in Globalstar's latest 10-K filings. However, it is important to note that intense competition in the industry may impact customer retention, limit revenue growth, and pose challenges for market entry.
- COGS, SG&A, and R&D expenses were projected to remain consistent as a percentage of revenue, while the NWCR was projected based on the past five years of historical data. Depreciation and amortization (D&A) were expected to decline, in line with a 5-year trend.
- CapEx was estimated using 5-year averages, with an increases due to the potential rapid technological shifts in the satellite communications industry requiring significant investments to maintain competitive positioning.
- Incorporating an after-tax cost of debt of 4.91% and cost of equity of 5% yields a WACC of 6.67%, which is used as the base case.
- Net debt amounted to approximately \$338M, bridging to the enterprise value of \$4.22B and the equity value of \$4.10B. This resulted in an implied share price of \$2.16, representing a 20% upside compared to the quoted stock price of \$1.80 at the time of writing.

All numbers in thousands due to size of Globalstar relative to Apple, unless otherwise stated, US\$

Globalstar Discounted Cash Flow Analysis (IV) – Illustrative Sensitivity Scenario

Implied Share Price Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	6.07%	2.18	2.36	2.59	2.88	3.24	3.71	4.37
	6.27%	2.01	2.17	2.36	2.59	2.88	3.26	3.75
	6.47%	1.87	2.00	2.16	2.36	2.59	2.89	3.28
	6.67%	1.74	1.86	1.99	2.16	2.36	2.60	2.90
	6.87%	1.63	1.73	1.85	1.99	2.15	2.35	2.60
	7.07%	1.53	1.61	1.72	1.84	1.98	2.15	2.35
	7.27%	1.43	1.51	1.60	1.71	1.83	1.97	2.14

Enterprise Value Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	07%	4,459,892	4,814,167	5,244,888	5,779,792	6,461,879	7,361,586	8,602,831
	27%	4,145,371	4,445,959	4,806,256	5,246,013	5,794,775	6,498,805	7,434,861
	47%	3,870,958	4,128,477	4,433,383	4,800,083	5,249,479	5,813,100	6,540,838
	67%	3,629,581	3,852,076	4,112,707	4,422,198	4,795,708	5,255,394	5,834,969
	87%	3,415,729	3,609,405	3,834,147	4,098,082	4,412,441	4,793,200	5,263,883
	07%	3,225,050	3,394,762	3,590,055	3,817,184	4,084,624	4,404,154	4,792,633
	27%	3,054,059	3,203,657	3,374,522	3,571,536	3,801,199	4,072,360	4,397,384

Implied Adj. Terminal EBITDA Sensitivity – WACC & Perpetuity Growth Rate

		PGR						
		3.25%	3.50%	3.75%	4.00%	4.25%	4.50%	4.75%
WACC	6.07%	16.66	18.09	19.83	21.99	24.75	28.39	33.40
	6.27%	15.39	16.60	18.06	19.84	22.05	24.90	28.68
	6.47%	14.28	15.32	16.55	18.03	19.85	22.13	25.07
	6.67%	13.30	14.20	15.25	16.51	18.02	19.87	22.22
	6.87%	12.44	13.22	14.13	15.20	16.47	18.00	19.91
	7.07%	11.67	12.35	13.14	14.06	15.14	16.43	18.00
	7.27%	10.98	11.58	12.27	13.07	14.00	15.09	16.40

All numbers in thousands due to size of Globalstar relative to Apple, unless otherwise stated, US\$

Globalstar and Apple Trading Comparables Analysis

Globalstar Comparables

Comparable Companies Analysis	
Peers	TEV/LTM EBITDA
Iridium Communications (NASDAQ: IRDM)	12.98x
Cogent Communications (NASDAQ: CCOI)	14.92x
Liberty Global (NASDAQ: LBTYA)	8.25x
EchoStar Corporation (NASDAQ: SATS)	16.59x
Median TEV/LTM EBITDA	13.95x
Implied TEV	2,046
(-) Net Debt	304
Implied Equity Value	1,743
Diluted Shares Outstanding	1,874
Implied Share Price	\$0.93

Apple Comparables

Comparable Companies Analysis	
Peers	TEV/LTM EBITDA
Alphabet Inc. (NASDAQ: GOOGL)	16.18x
Microsoft Corporation (NASDAQ: MSFT)	22.00x
Amazon.com, Inc. (NASDAQ: AMZN)	19.18x
Xiaomi Corporation (HK: 1810)	16.20x
Samsung Electronics Co., Ltd. (KRX: 005930)	4.06x
Median TEV/LTM EBITDA	16.20x
Implied TEV	2,181,510
(-) Net Debt	76,686
Implied Equity Value	2,104,824
Diluted Shares Outstanding	15,117
Implied Share Price	\$139.24

Globalstar Commentary

- For the trading comparables analysis, we looked at selected peers in the Telecommunication Services operating satellite constellation which had similar TEV and market caps for Globalstar.
- We also looked at peers outside of the U.S. to paint a more accurate picture of the median trading multiple of each firm.
- The implied share price is below the current share price of \$1.79, which reflects potential market overvaluation or the influence of speculative trading.

Apple Commentary

- For the trading comparables analysis, we looked at selected tech conglomerate peers with extensive hardware ecosystems which had similar TEV and market caps for Apple. We also looked at peers in hardware and especially mobile technology outside of the U.S. to paint a more accurate picture of the median trading multiple of each firm.
- Apple's implied share price is significantly below its current share price of \$228.02 at time of writing. Peers used were of similar market cap in the US but of significantly lower market cap in Asia, despite comparable mobile phone market shares.

All numbers in millions, unless otherwise stated, US\$

SWOT Analysis & Commentary

Opportunities to scale up and invest in satellite development amidst intense competition

Strengths

- **Enhanced Connectivity:** The investment aims to improve iPhone satellite communication capabilities, enabling users to send emergency messages and access services in areas without cellular coverage.
- **Strategic Partnership:** By acquiring a 20% stake in Globalstar, Apple secures a significant position in the satellite communications sector, potentially leading to exclusive features and services for its ecosystem.
- **Market Differentiation:** Integrating advanced satellite services can differentiate Apple products from competitors, appealing to consumers seeking reliable connectivity in remote locations.

Opportunities

- **Greater control:** Apple will control 85% of Globalstar's satellite system granting Apple greater control over its supply.
- **Growth:** Globalstar is planning to add 26 satellites to its already existing fleet of 31. This will benefit Apple as its services will be greatly improved.
- **Technological Leadership:** Apple's reputation in innovation grows as it takes important steps in improving its services.

Weaknesses

- **Financial Commitment:** The substantial investment requires careful management to ensure a return on investment, considering the high costs associated with satellite infrastructure development.
- **Technological Challenges:** Implementing satellite services in consumer devices involves complex technological integration, which may present unforeseen challenges and require significant research and development efforts.
- **Regulatory Hurdles:** Expanding satellite services necessitates compliance with international regulations, which could introduce delays and additional costs.

Threats

- **Competitive Pressure:** Other companies like SpaceX with its Starlink project and AST SpaceMobile are developing satellite-to-phone services and these services could challenge Apple's market position.
- **High Costs:** Apple is investing \$1.5 billion which leads to the threat of Apple missing other beneficial investment opportunities.
- **Reduced Flexibility:** This investment could reduce Apple's ability to respond to consumer trends and introduce new products