Scotiabank
Global Equity Research

Daily Edge | Pre-market
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Pertinent Data

Rating	**Sector Outperform**
1-Yr. Target	**US$45.90**
ASTS-Q	US$32.86
1-Yr. Return	39.7%
Risk Ranking	Speculative
Div. (NTM)	$0.00
Div. (Curr.)	$0.00
Yield (Curr.)	0.0%

Valuation: Equity Free Cash Flow model where we demand a 16.4% yield (well above funding costs of 12.9%) on the present value of first year of meaningful EFCF generation (2028).

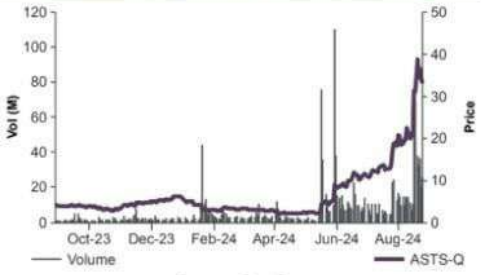
Pertinent Revisions

	New	Old
1-Yr. Target	US$45.90	US$28.00

Capitalization

Market Cap. (M)	$8,763
Net Debt + Pref. (M)	$15
Enterprise Value (M)	$8,777
Shares O/S (M)	267
Float O/S (M)	121

Volume and Closing Price for ASTS-Q



Source: FactSet.

LatAm Telecom, Media, Technology & Towers

AST SpaceMobile, Inc.

ASTS-Q: US$32.86 **Target:** US$45.90 ▲ Old: US$28.00 **Rating:** Sector Outperform

FirstNet Approves US$2.0B in Network Upgrades; Can SpaceX Wait Until 2027 for EPFD Limits to Change?

OUR TAKE: Positive. In its latest corporate video, ASTS suggests that the Birds are capable of delivering peak data rates of up to 120 Mbps, up from the initial 14 Mbps announced last year (BW3 tests). Our Buy rating is not based on a short-term trading opportunity, but on the company's potential to become the world's largest wireless company by subscribers. Days ahead of the launch of the five BB1 satellites, our attention is focused on the possibility of ASTS securing a pioneering advantage over SpaceX on the back of superior satellite design, whose hallmark is a giant phase array that allows for greater beam precision compliant with FCC interference limits. If the FCC stays firm on EPFD rules, SpaceX faces, in our view, tough choices: (1) Redesign its satellites at the risk of falling under patent-enforcement actions by ASTS; (2) Wait until 2027 for the WRC to change EPFD limits; (3) Find other available frequencies or buy contiguous blocks; or (4) Buy ASTS. As FirstNet commits more resources, we find yet another area where our estimates fail to capture the project's potential.

The next WRC should study all FDD frequencies. On August 20, SpaceX filed comments on the proposals of the World Radiocommunication Conference (WRC) Advisory Committee and the National Telecommunications and Information Administration on issues that will be considered at the next WRC in 2027. With respect to supplemental coverage from space, we think SpaceX is right in that the FCC *"should remain consistent with its views during WRC-23 to study all FDD (Frequency Division Duplex) frequency bands between 694 – 2700 MHz to avoid foreclosing promising bands..."*. ASTS is currently building 17 BB2 satellites, which will be part of a launching campaign starting as early as Q1/25. By 2027, ASTS could have global capabilities. In a filing released August 23, SpaceX takes issue with recent comments by AT&T and Verizon and again asks for the FCC to waive the out-of-band emissions limit.

At a board meeting on August 21, FirstNet approved a US$2.0B investment program to upgrade coverage: *"We can continue to enhance coverage for FirstNet subscribers, including an estimated $2 billion in coverage investments over the next 10 years [...] we are also planning on additional investments that will over time enable satellite direct-to-device capability for FirstNet subscribers."* The board's decision marks the FirstNet Authority's second major strategic investment this year, totaling more than US$8.0B over the next 10 years.

Increasing emergency-response revenues and lowering funding costs; raising target to US $45.90/share (fully diluted). Considering ASTS's coverage potential and FirstNet's budget, it is clear that our old US$60M estimate for 2026 was too conservative. We are increasing that to US$150M, still low as it represents less than 2% of the FirstNet budget; there are hundreds of emergency agencies across the globe. Our price target was punished by an excessively high funding cost (12.9%), influenced primarily by the senior secured facility (14.8%). As ASTS gets access to cheaper sources of funding, such as credit-export loans, funding costs should drop. Our new US$45.90/share target remains conservative as it is based on a 10.5% funding rate, still higher than strategic partners and satellite comps at 7.3% (see pg 3). Stock liquidity should be enhanced by international listings, such as the ongoing Mexican SIC request.

Qtly Revenues (M)	Q1	Q2	Q3	Q4	Year	Price/Revenue
2023A					$0.0	
2024E	$0.5A	$0.9A	$68	$115	$184	55.5x
2025E	$155	$350	$390	$450	$1,345	8.8x

(FY-Dec.)	2023A	2024E	2025E
EBITDA (M)	$-155	$-101	$404

Historical price multiple calculations use FYE prices. All values in US$ unless otherwise indicated.
Source: FactSet; company reports; Scotiabank GBM estimates.

Production: August 23, 2024, 17:44 ET. Dissemination: August 26, 2024, 06:08 ET.

It's a Big Carrot for MNOs; ASTS's Market Cap Still Far from Reflecting Global Capabilities and Multiple Monetization Sources

At US$8.9B, ASTS's market cap is far from reflecting its long-term potential. When we first published our model in March, the project was at a very different stage, with investors still doubting the company's ability to launch the BB1 satellites and to fund the first global constellation. **Our view at that time was and remains that the significant capex and tower savings to MNOs meant that the company would not lack sources of financing to deliver the global constellation.** Each year, the global telecom industry spends over US$310B in capex and US$68B in tower leases, devouring most of its cash flow. A detailed analysis of the nature of telecom capex (see Exhibit 1), as well as factual evidence from leading carriers, suggests that MNOs spend, conservatively, 35% to 50% of total capex in RAN; we believe 10% to 20% of consolidated capex/year is spent in bringing wireless connectivity to rural, semi-rural, remote and/or non-profitable areas, frequently to comply with license requirements. Hence, using satellites to enable connectivity could save MNOs, on average, US$46.5B in capex/year. MNOs would also be in a position to avoid new operating leases, triggering lease savings of US$6.3B/year. **As explained extensively in our initiation report, for every dollar of additional DTC revenues, MNOs are positioned to save around US $1.5 in capex and tower leases.**

Initial performance data suggests that ASTS's technology could qualify as 5G coverage for FCC purposes in terms of speeds, which could play a key role in the regulator's future acceptance of the SCS service as compliant with license requirements (thus triggering significant capex and tower savings). While the "connect the unconnected" story is the public face of the project, capex and tower savings may be a far more powerful reason behind MNO support.

Much depends on the successful launch of the BB1 satellites next September, but the risk level now is lower than it was two years ago ahead of the BlueWalker 3 launch. The equity agreements with AT&T, Vodafone, and Verizon earlier this year were a strong vote of confidence that provided the company not only with funding but also with the ability to reach, with contiguous 850 MHz spectrum, an enormous number of customers (146.4M postpaid phone customers or 184M including prepaid), in the world's richest telecom market.

Beyond revenues derived from relationships with carriers, ASTS has two major sources of monetization: (1) Defense contracts (we don't underestimate ASTS's ability to "listen to the bad guys"); and (2) Emergency-response agencies. FirstNet is only one of hundreds of emergency agencies across the world that could demand the ASTS services on a permanent or temporary basis. As shown in Exhibit 1, FirstNet has an ambitious agenda to enhance coverage in rural geographies. **FirstNet has a September fiscal year-end, so we might see something for ASTS as soon as Q4/24.** In our view, the US$60M in emergency-response revenues for 2026 did not capture the project's potential, and even the new US $150M we estimate now may fall short of global demand.

Exhibit 1 - Summary of the Typical Capex Breakdown of an Integrated Telecom Network

TYPICAL CAPEX BREAKDOWN OF A TELECOM NETWORK	Low	Median	High
CPEs	10%	15%	20%
CORE NETWORK, DATA CENTERS AND SERVICE PLATFORM	8%	10%	12%
TRANSPORT NETWORK (CORE, METRO / AGGREGATION)	5%	10%	15%
IT (DEVELOPMENT, SYSTEMS)	15%	20%	25%
OTHER (SHOPS, FACILITIES)	3%	5%	8%
ACCESS (RAN, BACKHAUL AND FIXED ACCESS)	35%	**40%**	50%
TOTAL		100%	

Source: ASTS initiation report by Scotiabank GBM; K. Larson, "The Nature of Telecom Capex," techneconomyblog, July 6, 2022; Scotiabank GBM.

Lower Funding Costs Could Trigger Significant Equity Creation in the Near Future

All our valuation models are based on equity free cash flow generation (EFCF); we demand an equity yield that must be higher than funding costs, lest it makes more sense to lend to the company than to buy stock. When we initiated coverage in Q1/24, the funding references we had were not reflective of the project's potential. For instance, the senior secured credit facility (14.8%) is actually backed by the company's assets, more of a mortgage than a credit based on the company's global reach, in our view. Also, back then, discussions on credit-export facilities were nascent.

The commercial interest reference rate of the Export-Import Bank of the United States (EXIM) is set on the 15th of each month and is based on average U.S. Treasury rates for the preceding month plus one percent. The five-year Treasury coupon currently stands at 4.0%, which means that the EXIM reference rate would be as low as 5%. However, this rate would not necessarily reflect the actual commercial rate at which lenders could fund ASTS.

As shown in Exhibit 2, the yield to maturity of the company's strategic partners currently stands at 5.1% (AT&T, Verizon and Vodafone). This is important because any future ASTS lender will take into account that the company is backed by prestigious telecom firms that generate substantial cash flow. Other satellite companies, such as Eutelsat, SES and Viasat (none of which has the same MNO backing as ASTS), stand at 9.6%. None of these bonds are secured papers, and although maturities may differ, they provide a ballpark reference for funding costs.

The 12.9% funding rate we were using in our model was punishing valuation in two ways: first, because it meant that the equity premium over debt was even higher at 13.7%; and, second, because we bring to present value the first year in which the company would generate significant equity free cash flow (2028). 10.5% is still much higher than the above references as we price in the fact that the business model is yet to develop; it is also multiple times higher than the credit-export rates. However, as the company hits major milestones, we expect funding costs to drop, allowing room for equity to shine versus bonds. This remains a major area of upside in our valuation model. This revision and the higher emergency-response estimates explain why we are increasing our target significantly, to US$45.90/share from US$28.0/share (see our valuation model in Exhibit 3).

Exhibit 2 - Funding Costs of Strategic Partners and Satellite Companies Well Below the Reference in Our Model

Company	Bond Ticker	YTM
AT&T	T 2.55 12/01/33	4.8%
Verizon	VZ 4.78 02/15/35	4.9%
Vodafone	VOD 5 5/8 02/10/53	5.5%
Funding Costs of Strategic Partners		**5.1%**
Average Funding Costs		**7.3%**

Company	Bond Ticker	YTM
Viasat	VSAT 7 1/2 05/30/31	12.8%
Eutelsat	ETLFP 9 3/4 04/13/29	8.4%
SES SA	SESGFP 5.3 04/04/43	7.6%
Funding Costs of Satellite Companies		**9.6%**

Source: Bloomberg

Exhibit 3 - Our AST Spacemobile Valuation Model (in USD M Unless Otherwise Stated)

Valuation FCF Yield	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
EBITDA	-101	404	1,397	2,697	4,761	7,735	15,113	29,118	40,052
(-) Organic Capex	-429	-1,115	-1,326	-1,130	-1,152	-1,176	-1,283	-2,049	-707
(-) Net interest paid	-16	-54	-124	-192	-186	-155	-101	15	232
(-) Cash Taxes	-2	0	0	0	-140	-851	-1,914	-5,207	-9,139
a. FCF	**-548**	**-765**	**-54**	**1,375**	**3,282**	**5,554**	**11,815**	**21,877**	**30,437**
b. FCF per share	-2.0	-2.4	-0.2	4.3	10.2	17.2	36.5	67.6	94.1
c. NPV of FCF per share		-2.1	-0.1	2.9	6.1	9.2	17.2	28.1	34.5
c. Current FCF yield	-6.0%	-7.2%	-0.5%	13.0%	31.1%	52.6%	111.9%	207.2%	288.3%
d. SpaceMobile 10Y Funding Cost (USD)	10.5%								
e. Telecom 10Y Average Funding Cost	7.3%								
f. SpaceMobile Proportional Difference vs Sector Avg.	43.8%								
g. Telecom 10Y Average FCF Yield	9.3%								
h. Fair FCF Yield (d/e * g)	13.4%								
i. Value per share (b/h; USD)	**45.9**								

Source: Scotiabank GBM estimates

Exhibit 4 - Our New AST Spacemobile Estimates (in USD M Unless Otherwise Stated)

	New			Old			Change (%)		
	2024E	2025E	2026E	2024E	2025E	2026E	2024E	2025E	2026E
Operational Data									
Cumulative Satellites Deployed	**6**	**55**	**115**	**6**	**55**	**115**	0.0%	0.0%	0.0%
Subscribers (Equatorial, Emerging Markets)	-	-	20	-	-	20	0.0%	0.0%	0.0%
As % of total subscribers	*0%*	*0%*	*36%*	*0%*	*0%*	*36%*	0 bp	0 bp	0 bp
Subscribers (Global, Developed Markets)	-	5	35	-	5	35	0.0%	0.0%	0.0%
As % of total subscribers	*0%*	*100%*	*64%*	*0%*	*100%*	*64%*	0 bp	0 bp	0 bp
Total Subscribers	**-**	**5**	**55**	**-**	**5**	**55**	0.0%	0.0%	0.0%
Equatorial ARPU	0.90	0.90	0.95	0.90	0.90	0.95	0.0%	0.0%	0.0%
% Growth	*0%*	*0%*	*5%*	*0%*	*0%*	*5%*	0 bp	0 bp	0 bp
Global ARPU	-	4.50	4.50	-	4.50	4.50	0.0%	0.0%	0.0%
% Growth	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	0 bp	0 bp	0 bp
Total ARPU	**-**	**4.50**	**3.32**	**-**	**4.50**	**3.32**	0.0%	0.0%	0.0%
% Growth	*0%*	*0%*	*-26%*	*0%*	*0%*	*-26%*	0 bp	0 bp	0 bp
P & L Accounts									
Equatorial Revenue	-	-	113	-	-	113	0.0%	0.0%	0.0%
Global Revenue (Developed Markets)	-	135	1,080	-	135	1,080	0.0%	0.0%	0.0%
User-generated revenues	**-**	**135**	**1,193**	-	**135**	**1,193**	0.0%	0.0%	0.0%
As % of total sales	*0%*	*10%*	*43%*	*0%*	*10%*	*44%*	0 bp	0 bp	-142 bp
Military industry	13	200	350	13	200	350	0.0%	0.0%	0.0%
Emergency & rural funds	6	10	150	6	10	60	0.0%	0.0%	150.0%
Intial carrier commitments & equipment	165	1,000	1,100	165	1,000	1,100	0.0%	0.0%	0.0%
Millitary, government & initial commitments	**184**	**1,210**	**1,600**	**184**	**1,210**	**1,510**	0.0%	0.0%	6.0%
As % of total sales	*100%*	*90%*	*57%*	*100%*	*90%*	*56%*	0 bp	0 bp	142 bp
Total Revenue	**184**	**1,345**	**2,793**	**184**	**1,345**	**2,703**	0.0%	0.0%	3.3%
Cost of Sales	(18)	(404)	(698)	(18)	(404)	(676)	0.0%	0.0%	3.3%
Operating expenses	(267)	(538)	(698)	(267)	(538)	(676)	0.0%	0.0%	3.3%
EBITDA	**(101)**	**404**	**1,397**	**(101)**	**404**	**1,352**	0.0%	0.0%	3.3%
EBITDA Margin	*-55%*	*30%*	*50%*	*-55%*	*30%*	*50%*	0 bp	0 bp	0 bp
Depreciation and Amortization	(149)	(317)	(815)	(149)	(317)	(815)	0.0%	0.0%	0.0%
Stock-based compensation	(36)	(135)	(279)	(36)	(135)	(270)	0.0%	0.0%	3.3%
EBIT	**(286)**	**(48)**	**302**	**(286)**	**(48)**	**266**	0.0%	0.0%	13.5%
EBIT Margin	*-155%*	*-4%*	*11%*	*-155%*	*-4%*	*10%*	0 bp	0 bp	97 bp
Net financial expenses	(16)	(54)	(124)	(16)	(54)	(124)	0.0%	0.0%	0.0%
Other income (expenses)	(54)	(108)	(141)	(54)	(108)	(136)	0.0%	0.0%	3.3%
Profit Before Taxes	**(355)**	**(210)**	**37**	**(355)**	**(210)**	**6**	0.0%	0.0%	533.9%
Taxes	(2)	-	-	(2)	-	-	0.0%	0.0%	0.0%
Net Profit	**(357)**	**(210)**	**37**	**(357)**	**(210)**	**6**	0.0%	0.0%	533.9%
Shares outstanding (mn)	281	323	323	281	323	323	0.0%	0.0%	0.0%
Earnings per Share	(1.27)	(0.65)	0.12	(1.27)	(0.65)	0.02	0.0%	0.0%	533.9%
Capex	429	1,115	1,326	429	1,115	1,326	0.0%	0.0%	0.0%
Net debt	414	833	1,058	414	833	1,102	0.0%	0.0%	-4.0%

Source: Scotiabank GBM estimates

Exhibit 5 - Operational & Financial Summary (in USD M Unless Otherwise Stated)

Operational Data	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Cumulative Satellites Deployed	**1**	**6**	**55**	**115**	**175**	**235**	**295**	**355**	**415**	**475**
Subscribers (Equatorial)	-	-	-	20	60	120	240	480	528	581
As % of total subscribers	*0.0%*	*0.0%*	*0.0%*	*36.4%*	*50.0%*	*57.1%*	*66.7%*	*66.7%*	*52.4%*	*52.4%*
Subscribers (Global)	-	-	5	35	60	90	120	240	480	528
As % of total subscribers	*0.0%*	*0.0%*	*100.0%*	*63.6%*	*50.0%*	*42.9%*	*33.3%*	*33.3%*	*47.6%*	*47.6%*
Total Subscribers	**-**	**-**	**5**	**55**	**120**	**210**	**360**	**720**	**1,008**	**1,109**
Equatorial ARPU	-	0.90	0.90	0.95	0.98	1.03	1.08	1.14	1.19	1.25
% Growth			*0.0%*	*5.0%*	*4.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*
Global ARPU	-	-	4.50	4.50	4.73	4.96	5.21	5.47	5.52	5.58
% Growth					*5.0%*	*5.0%*	*5.0%*	*5.0%*	*1.0%*	*1.0%*
Total ARPU	**-**	**-**	**4.50**	**3.32**	**3.01**	**2.82**	**2.60**	**2.58**	**3.00**	**3.31**
% Growth			*0.0%*	*-26.3%*	*-9.1%*	*-6.5%*	*-7.6%*	*-0.8%*	*16.2%*	*10.5%*

P & L Accounts	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Equatorial Revenue	-	-	-	113	472	1,114	2,340	4,915	7,225	8,345
Global Revenue	-	-	135	1,080	2,693	4,465	6,564	11,815	23,866	33,746
User-generated revenues	**-**	**-**	**135**	**1,193**	**3,165**	**5,580**	**8,904**	**16,730**	**31,091**	**42,091**
As % of total sales	*0%*	*0.0%*	*10.0%*	*42.7%*	*72.8%*	*84.4%*	*90.9%*	*95.2%*	*97.2%*	*97.7%*
Military industry	-	13	200	350	385	424	466	512	564	620
Emergency & rural funds	-	6	10	150	200	210	221	232	243	255
Intial carrier commitments & equipment	-	165	1,000	1,100	600	400	200	100	100	100
Millitary, government & initial commitments	**-**	**184**	**1,210**	**1,600**	**1,185**	**1,034**	**886**	**844**	**907**	**975**
As % of total sales	*0%*	*100.0%*	*90.0%*	*57.3%*	*27.2%*	*15.6%*	*9.1%*	*4.8%*	*2.8%*	*2.3%*
Total Revenue	**-**	**184**	**1,345**	**2,793**	**4,350**	**6,613**	**9,791**	**17,574**	**31,997**	**43,066**
Cost of Sales	-	(18)	(404)	(698)	(870)	(992)	(1,175)	(1,406)	(1,600)	(1,723)
Operating expenses	(155)	(267)	(538)	(698)	(783)	(860)	(881)	(1,054)	(1,280)	(1,292)
EBITDA	**(155)**	**(101)**	**404**	**1,397**	**2,697**	**4,761**	**7,735**	**15,113**	**29,118**	**40,052**
EBITDA Margin	*0%*	*-55%*	*30%*	*50%*	*62%*	*72%*	*79%*	*86%*	*91%*	*93%*
Depreciation and Amortization	(54)	(149)	(317)	(815)	(1,134)	(1,131)	(1,145)	(1,164)	(1,239)	(1,744)
Stock-based compensation	(13)	(36)	(135)	(279)	(348)	(463)	(587)	(879)	(1,600)	(1,723)
EBIT	**(222)**	**(286)**	**(48)**	**302**	**1,215**	**3,167**	**6,002**	**13,071**	**26,279**	**36,585**
EBIT Margin	*0%*	*-155%*	*-4%*	*11%*	*28%*	*48%*	*61%*	*74%*	*82%*	*85%*
Net financial expenses	3	(16)	(54)	(124)	(192)	(186)	(155)	(101)	15	232
Other income (expenses)	(1)	(54)	(108)	(141)	(158)	(173)	(177)	(212)	(258)	(260)
Profit Before Taxes	**(221)**	**(355)**	**(210)**	**37**	**865**	**2,808**	**5,670**	**12,757**	**26,037**	**36,556**
Taxes	(2)	(2)	-	-	-	(140)	(851)	(1,914)	(5,207)	(9,139)
Net Profit	**(223)**	**(357)**	**(210)**	**37**	**865**	**2,668**	**4,820**	**10,844**	**20,829**	**27,417**
Shares outstanding (mn)	218	281	323	323	323	323	323	323	323	323
Earnings per Share	(1.02)	(1.27)	(0.65)	0.12	2.67	8.25	14.90	33.53	64.41	84.78

Balance Sheet	2023A	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets	**361**	**653**	**1,616**	**2,469**	**3,753**	**6,902**	**12,315**	**24,081**	**46,567**	**75,709**
Current Assets	107	129	294	636	1,924	5,053	10,435	22,081	43,757	73,936
Cash & Equivalents	88	101	237	562	1,841	4,962	10,341	21,969	43,620	73,799
Other Current Assets	19	28	57	74	83	91	94	112	136	137
Non-current Assets	254	524	1,322	1,833	1,828	1,849	1,880	2,000	2,810	1,773
Fixed Assets	238	507	1,305	1,816	1,812	1,833	1,864	1,984	2,794	1,757
Other Non-current Assets	16	16	16	16	16	16	16	16	16	16
Liabilities	**147**	**575**	**1,258**	**1,795**	**1,866**	**1,885**	**1,890**	**1,934**	**1,990**	**1,993**
Current Liabilities	46	62	190	176	198	217	222	265	322	325
Non-current Liabilities	101	513	1,068	1,618	1,668	1,668	1,668	1,668	1,668	1,668
Long-term debt	59	425	980	1,530	1,580	1,580	1,580	1,580	1,580	1,580
Other Non-current Liabilities	42	89	89	89	89	89	89	89	89	89
Shareholders capital	**214**	**78**	**357**	**674**	**1,887**	**5,017**	**10,425**	**22,147**	**44,576**	**73,716**

Source: Scotiabank GBM estimates; company financials