

November 15th, 2024

Cohen & Company Capital Markets:

BTC MINING MARKET DATA

Market Performance – Key Assets and Indices

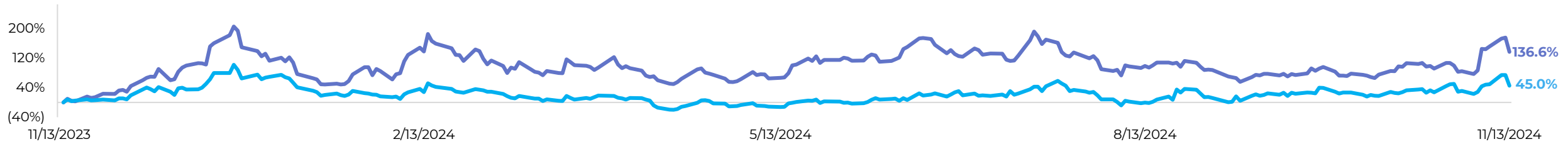
Asset / Index	Ticker	Price / Level	% 52-Wk	% Change						
				7 Days	30 Days	1 Year	MTD	QTD	YTD	
Natural Resources										
Natural Gas (Henry Hub)	HHGAS	\$2.99	91.9%	65.9%	29.3%	14.4%	110.4%	11.9%	16.7%	
Bitcoin Network										
Hashprice (\$/PH/Day)	NA	\$60.45	31.8%	28.8%	29.2%	(25.9%)	31.5%	34.3%	(35.3%)	
Network Hashrate (EH/s)	NA	670	82.7%	(12.7%)	4.9%	71.5%	(9.0%)	(3.6%)	44.0%	
Transaction Fees as % of Reward	NA	5.3%	1.7%	207.9%	(9.7%)	(62.5%)	207.4%	231.8%	(69.3%)	
Digital Assets										
Bitcoin	BTC	\$90,492.00	100.0%	19.6%	36.9%	147.6%	30.3%	48.6%	101.8%	
Ethereum	ETH	\$3,192.10	78.4%	17.4%	21.4%	54.7%	27.1%	30.2%	35.7%	
Solana	SOL	\$212.73	95.6%	27.5%	44.4%	279.1%	26.0%	39.3%	94.8%	
Ripple	XRP	\$0.69	96.6%	27.4%	26.4%	2.9%	35.0%	15.7%	10.5%	
Indices										
S&P 500	SPX	5,985.38	99.7%	1.0%	2.1%	35.7%	4.5%	4.8%	26.2%	
NASDAQ Composite	COMP	19,230.74	99.6%	1.3%	3.9%	39.7%	5.4%	7.4%	30.2%	
Valkyrie BTC Miners ETF	WGMI	\$26.81	89.0%	7.1%	34.7%	191.7%	27.8%	49.8%	53.3%	
Market Volatility Index	VIX	14.02	36.3%	(13.8%)	(28.8%)	(5.0%)	(35.9%)	(27.2%)	6.2%	
Gold	GoldCOMP	\$2,573.26	92.3%	(3.2%)	(2.8%)	32.2%	(5.9%)	(3.4%)	25.0%	
Oil	CL00	\$68.43	78.7%	(4.5%)	(7.3%)	(12.6%)	(1.5%)	(2.0%)	(2.8%)	
IG Corp Bond	LQD	\$108.24	95.2%	0.0%	(2.3%)	5.9%	0.2%	(4.3%)	(1.5%)	
HY Corp Bond	HYG	\$79.41	98.8%	0.1%	(0.3%)	7.3%	0.8%	(0.6%)	3.0%	
LT US Treasury	TLT	\$89.80	88.6%	(0.4%)	(4.2%)	2.3%	(1.1%)	(8.8%)	(8.7%)	
Real Yields										
5Y TIPS	DFII5	1.9%	79.3%	3.9%	15.3%	(20.7%)	1.6%	30.6%	6.8%	
10Y TIPS	DFII10	2.1%	90.1%	2.5%	19.4%	(9.9%)	2.5%	34.8%	20.1%	

LTM Public Miner Performance

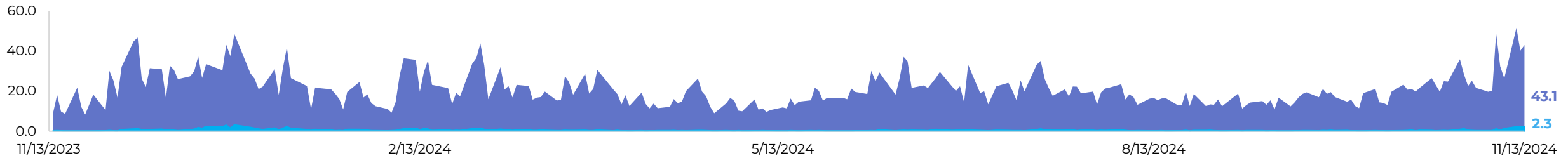
TRADING PERFORMANCE: LARGE VS. SMALL SCALE MINERS

■ Large-Scale Miners ■ Small-Scale Miners

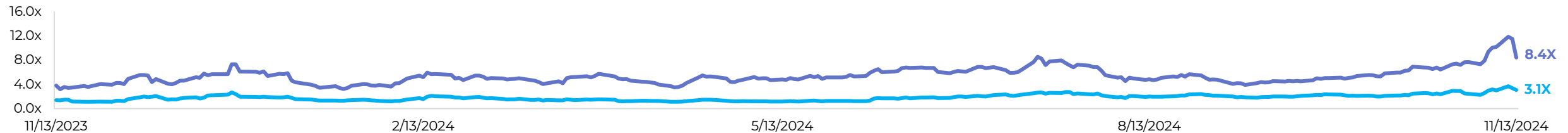
Share Price Performance (%)



Trading Volume (M)



Valuation (EV / 24E Revenue)



Source: FactSet data as of November 13, 2024; Public Filings

Note: Large Miners include MARA, CLSK, CORZ, RIOT, WULF, IREN, BITF, CIFR; Small Miners include APLD, HIVE, BTBT, ARBK, SDIG, GREE, SAI, BTCM, SLNH, DMG, HUT

Bitcoin Miner ATM Registrations Since 2020
























Filing Date	Issuer	ATM Size (\$M)	Market Cap at Filing (\$M)	% of Market Cap	Gross Spread
11/6/2024	BIT Mining Ltd	10	35	27%	3.0%
10/4/2024	Bitfarms Ltd	127	915	14%	3.0%
10/3/2024	HIVE Blockchain Technologies Ltd	200	368	54%	3.0%
9/3/2024	Cipher Mining Inc	600	1,073	56%	3.0%
9/3/2024	Cipher Mining Inc	297	1,053	28%	3.0%
8/9/2024	Riot Platforms Inc	750	2,522	30%	3.0%
7/9/2024	Applied Digital Corp	125	1,046	12%	3.0%
5/23/2024	TeraWulf Inc	200	720	28%	3.0%
5/6/2024	Applied Digital Corp	25	402	6%	3.0%
4/19/2024	Gryphon Digital Mining Inc.	70	53	133%	3.0%
3/28/2024	CleanSpark Inc	800	4,577	17%	3.0%
3/21/2024	Iris Energy Ltd	200	525	38%	3.0%
3/18/2024	Bitdeer Technologies Group	250	829	30%	3.0%
3/8/2024	Bitfarms Ltd	375	892	42%	3.0%
3/6/2024	Cipher Mining Inc	200	1,076	19%	3.0%
2/29/2024	Marathon Digital Holdings Inc	1,500	6,932	22%	3.0%
1/5/2024	CleanSpark Inc	500	1,935	26%	3.0%
10/24/2023	Marathon Digital Holdings Inc	750	1,898	40%	3.0%
9/13/2023	Iris Energy Ltd	300	297	101%	3.0%
9/5/2023	SAI.TECH Global Corp	10	17	59%	3.0%
8/9/2023	Riot Platforms Inc	750	2,978	25%	3.0%
8/4/2023	Cipher Mining Inc	250	864	29%	3.0%
6/26/2023	Applied Digital Corp	125	882	14%	3.0%
5/23/2023	Stronghold Digital Mining Inc	15	51	29%	3.0%
9/21/2022	Cipher Mining Inc	250	370	68%	3.0%
10/3/2022	Greenidge Generation Holdings Inc	23	85	27%	3.0%
9/2/2022	HIVE Blockchain Technologies Ltd	100	394	25%	3.0%
8/17/2022	Hut 8 Mining Corp	200	581	34%	3.0%
4/26/2022	TeraWulf Inc	200	416	48%	3.0%
3/31/2022	Bit Digital Inc	500	262	191%	3.0%
3/31/2022	Riot Blockchain Inc	500	2,483	20%	3.0%
2/11/2022	Marathon Digital Holdings Inc	750	2,967	25%	3.0%
8/31/2021	Riot Blockchain Inc	600	3,581	17%	3.0%
8/16/2021	Bitfarms Ltd	500	1,298	39%	3.0%
6/3/2021	CleanSpark Inc	500	582	86%	3.0%
12/11/2020	Marathon Patent Group Inc	200	250	80%	3.0%
12/4/2020	Riot Blockchain Inc	100	675	15%	3.0%
10/7/2020	Riot Blockchain Inc	100	126	79%	3.0%
8/6/2020	Marathon Patent Group Inc	100	125	80%	3.0%
Mean:		335	1,183	44%	3.0%
Median:		200	720	29%	3.0%

Source: FactSet; Bloomberg; Public filings

~\$7.7B Raised through ATM, ELOC and PIPE/Convertibles by Public Miners in 2024

\$M as of 11/14/2024	2024 Public Markets Activity			Total
Ticker	ATM	ELOC	PIPE / Convertibles	ATM + ELOC + PIPE + Convertibles
RIOT	\$792.8	-	-	\$792.8
MARA	\$1,452.0	-	\$300.0	\$1,752.0
BTDR	-	\$50.8	\$322.5	\$373.3
CORZ	-	-	\$460.0	\$460.0
APLD	\$49.3	-	\$859.5	\$908.8
NB2	-	-	-	-
CIFR	\$221.7	-	-	\$221.7
CLSK	\$916.5	-	\$0.0	\$916.5
HUT	-	-	\$150.0	\$150.0
WULF	\$189.3	-	\$500.0	\$689.3
HIVE	\$104.8	-	-	\$104.8
IREN	\$752.4	-	-	\$752.4
BITF	\$279.0	-	-	\$279.0
BTBT	\$113.9	-	-	\$113.9
SDIG	-	-	-	-
ARBK	-	-	\$18.4	\$18.4
BTCM	-	-	-	-
SAI	-	-	-	-
SLNH	-	\$9.3	\$30.0	\$39.3
GREE	-	-	\$26.0	\$26.0
SATO	-	-	-	-
GRDI	-	-	-	-
GRYP	\$2.0	-	\$5.0	\$7.0
DMG	-	-	\$10.8	\$10.8
FUFU	-	-	\$77.1	\$77.1
Total	\$4,873.6	\$60.1	\$2,759.2	\$7,692.9

Common Stock Comparison - Bitcoin Mining Companies Trading Metrics

Company Name	EV (\$M)	Mkt. Cap Cap (\$M)	Share Price (\$)	Share Price % Change			EV / Current Metrics				EV / Projected Metrics					
				% 52-Wk	MTD	YTD	Prop Hashrate (EH/s)	Ann. BTC Production ⁽¹⁾	Capacity (MW)	Hashspread (\$/PH/Day) ⁽²⁾	2024E Prop. Hashrate (EH/s)	2025E Prop. Hashrate (EH/s)	2024E Revenue	2025E Revenue	2024E EBITDA	2025E EBITDA
 Core Scientific	\$8,076	\$8,297	\$16.13	89.5%	22.0%	NA	\$409.9	20.0x	\$9.7	35.8x	\$370.5	NA	15.7x	14.4x	53.9x	41.8x
 Marathon Digital	5,012	7,220	21.70	63.7	35.0	(0.1)	124.7	6.4	5.8	11.9	100.2	NA	8.0	5.3	10.0	13.3
 Riot Blockchain ⁽³⁾	3,179	4,522	12.67	67.6	50.7	(18.1)	108.1	5.8	2.7	7.4	91.1	68.1	8.8	5.2	16.2	22.2
 CleanSpark	2,920	3,827	14.98	60.6	56.2	35.8	93.3	4.1	5.2	7.4	78.9	58.4	6.4	4.1	10.7	7.6
 TeraWulf ⁽⁴⁾	2,876	2,970	7.35	79.0	74.5	206.0	287.6	17.6	14.7	24.9	216.2	92.8	20.4	10.7	44.9	22.9
 Hut 8 Mining ⁽⁵⁾	2,746	2,519	24.78	87.0	111.4	85.8	490.4	25.2	2.8	NA	NA	NA	16.6	10.2	11.0	27.0
 Cipher Mining	2,263	2,473	6.62	82.9	58.0	60.3	211.5	12.3	6.9	14.9	167.6	64.6	15.2	7.9	39.6	14.3
 Northern Data ⁽⁶⁾	2,088	2,166	35.85	93.3	30.9	(2.1)	652.4	11.7	3.9	NA	264.3	NA	9.4	3.7	28.5	7.1
 Iris Energy ⁽⁷⁾	1,700	2,105	10.88	69.1	40.6	52.2	81.0	3.5	4.7	5.0	54.8	34.0	5.1	2.9	13.5	7.6
 BitDeer ⁽⁸⁾	1,483	1,681	10.60	74.3	40.0	12.5	170.5	7.8	1.7	19.2	125.7	24.7	3.8	2.7	18.7	8.1
 Applied Digital ⁽⁹⁾	1,722	1,681	7.17	75.6	(1.5)	6.4	NA	NA	6.2	NA	NA	NA	7.9	4.9	30.1	13.2
 Bitfarms ⁽¹⁰⁾	871	1,050	2.27	57.9	22.4	(22.2)	75.7	3.4	2.7	6.0	41.5	24.9	4.3	2.1	14.1	3.9
 Bitfury ⁽¹¹⁾	727	870	5.34	29.1	34.5	(51.1)	27.8	NA	1.3	3.9	NA	NA	1.6	1.5	NA	NA
 Bit Digital	453	643	4.64	80.8	46.8	9.7	186.6	8.0	5.4	27.1	75.6	NA	4.1	2.3	6.0	5.0
 Hive	435	579	4.67	81.4	48.3	3.1	82.1	3.4	3.4	7.2	72.5	32.2	3.8	2.1	12.4	5.1
 Stronghold Digital	150	99	5.34	46.2	23.6	(27.4)	59.8	2.2	1.2	6.7	NA	NA	1.9	1.5	23.0	7.1
 Argo Blockchain ⁽¹²⁾	114	87	1.33	29.9	17.7	(64.4)	42.4	2.3	1.0	6.5	NA	NA	2.3	2.7	54.5	44.9
 DMC	42	61	0.35	60.2	3.2	(19.7)	25.4	1.1	0.6	NA	20.0	14.0	1.6	NA	NA	NA
 BIT Mining	22	34	4.15	59.7	(3.5)	(17.7)	394.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
 Soluna ⁽¹³⁾	143	31	3.95	44.9	17.6	(7.5)	194.3	8.2	2.8	13.9	NA	NA	NA	NA	NA	NA
 Greenidge Generation	88	30	2.42	26.1	13.6	(63.9)	110.4	1.5	0.7	45.0	29.4	NA	1.4	1.6	11.2	NM
 SAITech Limited	22	23	1.17	65.1	98.8	(1.7)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
 SATO Technologies ⁽¹⁴⁾	12	10	0.19	31.6	22.5	(54.6)	22.1	1.0	0.6	NA	NA	NA	1.0	1.4	NA	NA
Median					34.5	(1.9)	110.4	5.8	2.8	9.7	85.0	34.0	4.7	2.9	16.2	10.7

Source: FactSet as of November 13, 2024. Mining operating metrics as of October 2024



Self-Mining and Hosting


























Self-Mining Only



Hosting Only

(1) Assumes price of \$91,000 per Bitcoin and production figure annualized based on October 2024 production (2) Hashspread calculated as hashspread * implied operating capacity (fleet efficiency * hashrate) * 24 hrs * 365 days (3) Cost of power net of total power credits (4) Price of electricity excludes the benefit of demand response or ancillary services revenue. Capacity excludes Nautilus due to the sale to Talen Energy. Cash and debt on balance sheet figures reflect issuance of convertible note (5) Capacity represents energy capacity under management (6) Cash on balance sheet based on EUR to USD FX rate as of April 10, 2024 (7) Hashrate represents total installed hashrate (8) Cash and debt on balance sheet figures reflect issuance of convertible note (9) MW capacity only includes capacity dedicated towards crypto hosting operations. Cash and debt on balance sheet figures reflect issuance of convertible note (10) Price of electricity represents the estimated power cost at the Yguazu facility (11) Hashrate represents total hashrate under management (12) Electricity price represents the average cost for 2023 (13) Efficiency includes a mix of prop and hosted miners. Capacity includes managed capacity (14) Hashrate represents total installed hashrate

Common Stock Comparison - Bitcoin Mining Companies Operating Metrics

Company Name	Most Current Mining Metrics								Projected Mining Metrics			Financial Metrics				
	Prop. Hashrate (EH/s)	Efficiency (J/TH)	Capacity (MW)	Power Cost (\$/MWh)	Revenue (\$/MWh) ⁽¹⁾	GP Margin (\$/MWh)	Hashspread (\$/PH/Day) ⁽²⁾	BTC Mined Monthly (#)	2024E Prop. Hashrate (EH/s)	2025E Prop. Hashrate (EH/s)	2024E Rev. Growth	2024E Gross	2024E EBITDA Margin	Total BTC Holdings (#)	Cash on B. Sheet (\$M)	Debt on B. Sheet (\$M)
 Core Scientific	19.7	24.8	830	\$43	\$96	\$53	\$31	369	21.8	NA	2.3%	25.2%	29.2%	NA	\$253.0	\$492.5
 Marathon Digital	40.2	21.5	869	55	110	55	29	717	50.0	NA	62.4	(14.7)	79.4	27,562	164.3	618.7
 Riot Blockchain ⁽³⁾	29.4	23.0	1160	31	103	72	40	505	34.9	46.7	28.9	32.2	54.1	10,928	355.7	6.3
 CleanSpark	31.3	20.9	557	45	114	69	34	655	37.0	50.0	105.6	56.0	59.9	8,701	126.1	11.0
 TeraWulf ⁽⁴⁾	10.0	22.0	195	48	108	60	32	150	13.3	31.0	103.7	58.9	45.4	NA	523.9	500.0
 Hut 8 Mining ⁽⁵⁾	5.6	NA	967	29	NA	NA	NA	100	NA	NA	51.1	47.5	150.8	9,110	72.3	297.3
 Cipher Mining	10.7	27.8	327	27	85	58	39	168	13.5	35.0	17.2	61.2	38.5	1,428	25.3	0.0
 Northern Data ⁽⁶⁾	3.2	NA	538	41	NA	NA	NA	164	7.9	NA	193.8	71.0	33.1	NA	268.4	190.3
 Iris Energy ⁽⁷⁾	21.0	16.0	360	34	148	114	44	439	31.0	50.0	154.2	54.2	38.2	NA	404.6	0.0
 BitDeer ⁽⁸⁾	8.7	31.6	895	43	75	32	24	174	11.8	60.0	5.2	25.2	20.5	NA	401.3	210.3
 Applied Digital ⁽⁹⁾	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	82.2	6.2	26.2	NA	433.2	518.6
 Bitfarms ⁽¹⁰⁾	11.5	21.0	324	44	113	69	35	236	21.0	35.0	37.8	(20.1)	30.6	1,188	72.9	1.7
 Bitfutu ⁽¹¹⁾	26.2	21.1	556	74	113	39	20	NA	NA	NA	NA	8.2	NA	NA	142.7	0.0
 Bit Digital	2.4	27.9	84	57	85	28	19	52	6.0	NA	149.2	43.8	67.9	1,769	79.8	0.0
 Hive	5.3	22.3	128	48	107	59	31	117	6.0	13.5	1.0	10.8	31.1	2,604	7.2	19.4
 Stronghold Digital	2.5	32.0	130	43	74	32	24	63	NA	NA	5.8	71.3	8.2	10	4.5	53.4
 Argo Blockchain ⁽¹²⁾	2.7	32.5	115	50	73	23	18	46	NA	NA	(0.3)	7.6	4.2	4	4.0	41.2
 DMG	1.7	22.0	65	NA	108	NA	NA	34	2.1	3.0	16.5	48.7	NA	399	0.6	9.8
 BIT Mining	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.9	0.0
 Soluna ⁽¹³⁾	0.7	26.0	51	30	91	61	38	16	NA	NA	NA	NA	NA	NA	8.8	22.6
 Greenidge Generation	0.8	28.7	122	73	83	10	7	56	3.0	NA	(10.4)	NA	12.5	NA	7.6	69.5
 SAITech Limited	NA	26.0	NA	NA	91	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	0.0
 SATO Technologies ⁽¹⁴⁾	0.6	NA	20	38	NA	NA	NA	11	NA	NA	(6.6)	NA	NA	32	0.2	7.2
Median	5.6	23.9	324	43	100	57	31	150	13.4	35	28.9	38.0	33.1	1,598	72.9	19.4

Source: FactSet as of November 13, 2024. Mining operating metrics as of October 2024

Note: Debt excludes financial and operating leases



Self-Mining and Hosting



Self-Mining Only

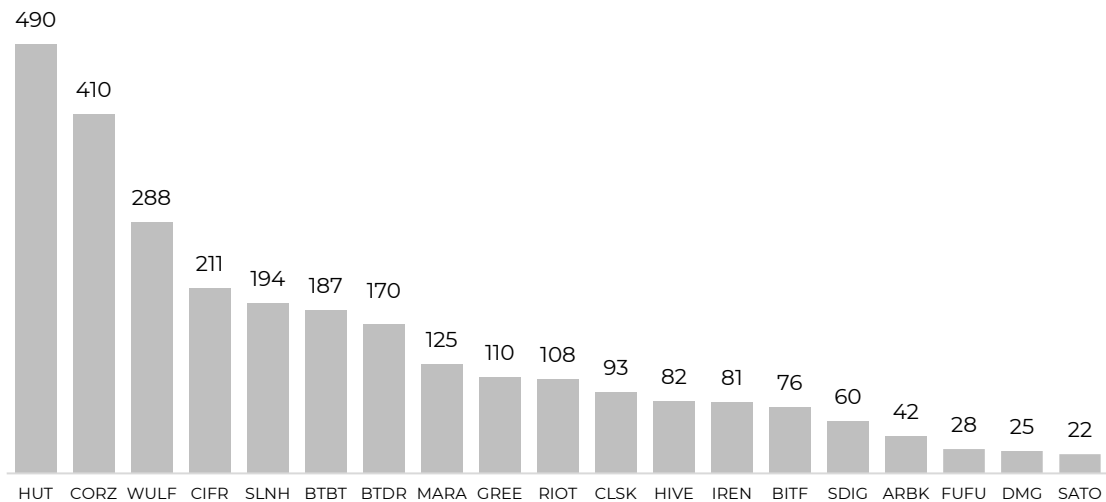


Hosting Only

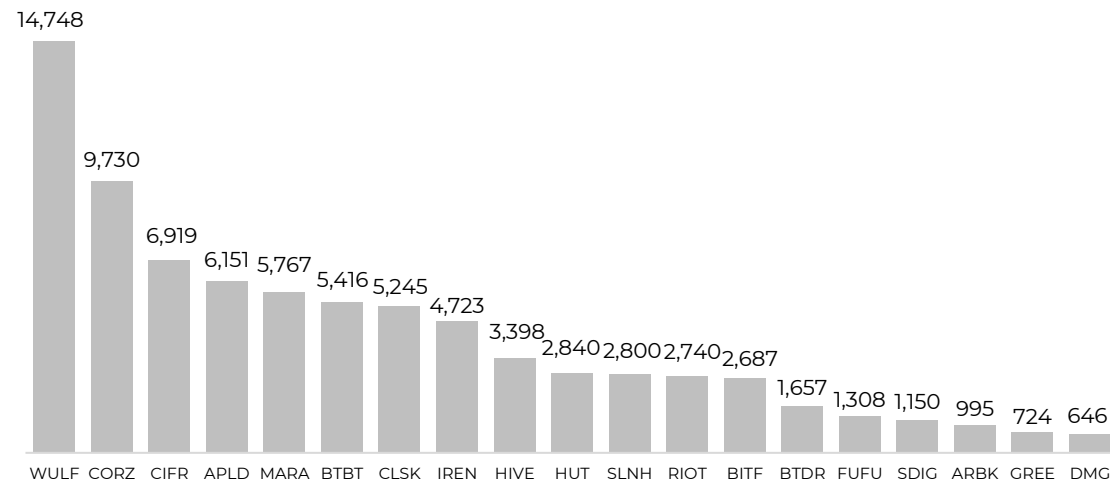
(1) Revenue / MWh calculated as hashprice of \$57.0/PH/day divided by fleet efficiency divided by 24 (2) Hashspread calculated as hashprice of \$57.0/PH/day minus hashcost; hashcost calculated as power cost/MWh *24* fleet efficiency (J/TH) /1000 (3) Cost of power net of total power credits (4) Price of electricity excludes the benefit of demand response or ancillary services revenue. Capacity excludes Nautilus due to the sale to Talen Energy. Cash and debt on balance sheet figures reflect issuance of convertible note (5) Capacity represents energy capacity under management (6) Cash on balance sheet based on EUR to USD FX rate as of April 10, 2024 (7) Hashrate represents total installed hashrate (8) Cash and debt on balance sheet figures reflect issuance of convertible note (9) MW capacity only includes capacity dedicated towards crypto hosting operations. Cash and debt on balance sheet figures reflect issuance of convertible note (10) Price of electricity represents the estimated power cost at the Yguazu facility (11) Hashrate represents total hashrate under management (12) Electricity price represents the average cost for 2023 (13) Efficiency includes a mix of prop and hosted miners. Capacity includes managed capacity (14) Hashrate represents total installed hashrate

Trading Multiples

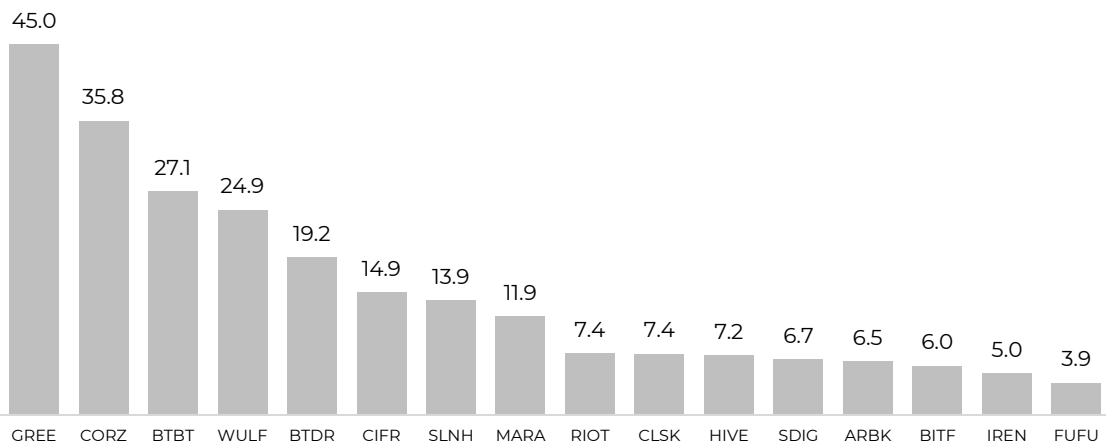
EV / Current Proprietary Hashrate (\$M / EH/s)



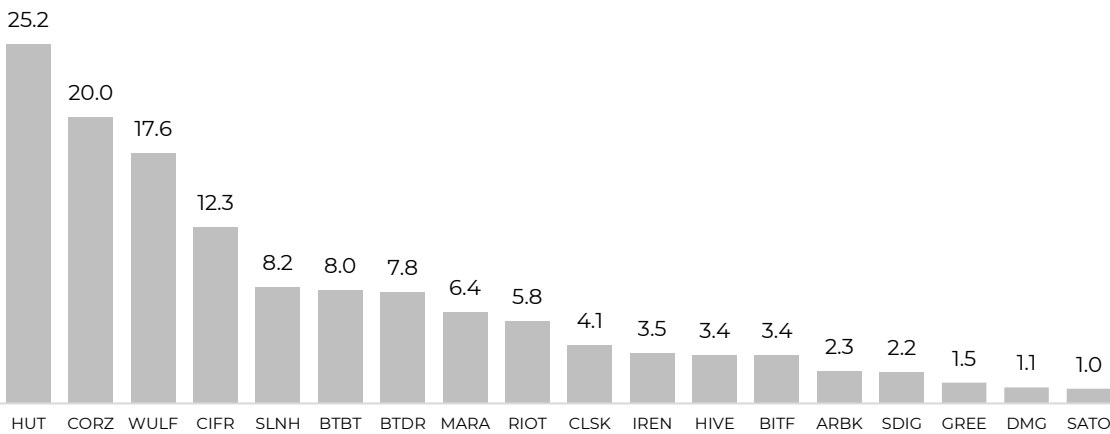
EV / Current Installed Capacity (\$'000 / MW)



EV / Hashspread⁽¹⁾ (x)



EV / Annualized BTC Production⁽²⁾ (x)



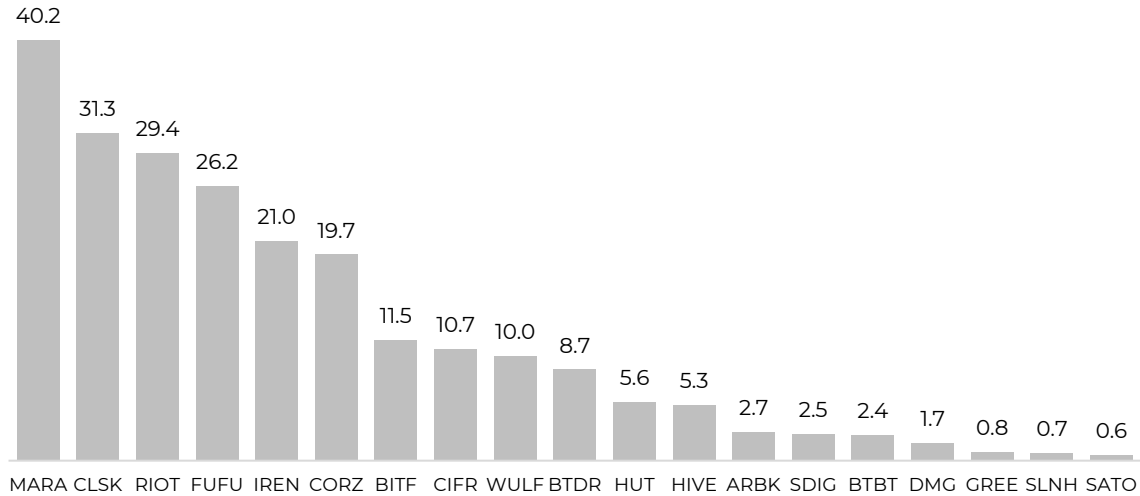
Source: FactSet, investor presentations, press releases and other public filings. Market data as of November 13, 2024. Mining metrics as of October 2024

(1) Hashspread calculated as hashprice of \$57.0/PH/day minus hashcost; hashcost calculated as power cost/MWh *24* fleet efficiency (J/TH) / 1000 (2) Assumes price of \$91,000 per Bitcoin and production figure annualized based on October production

Operating Metrics

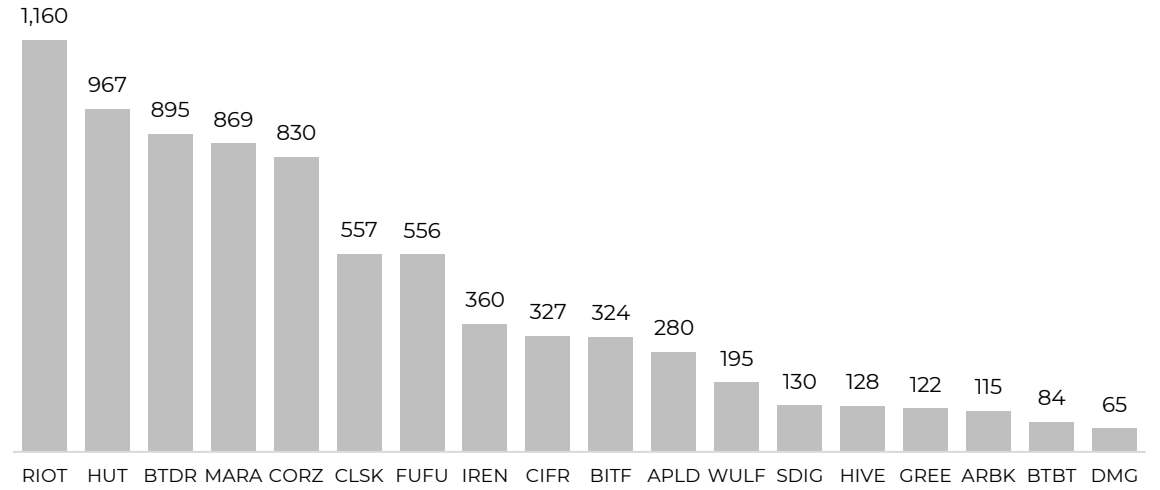
Current Proprietary Hashrate (EH/s)

(EH/s)



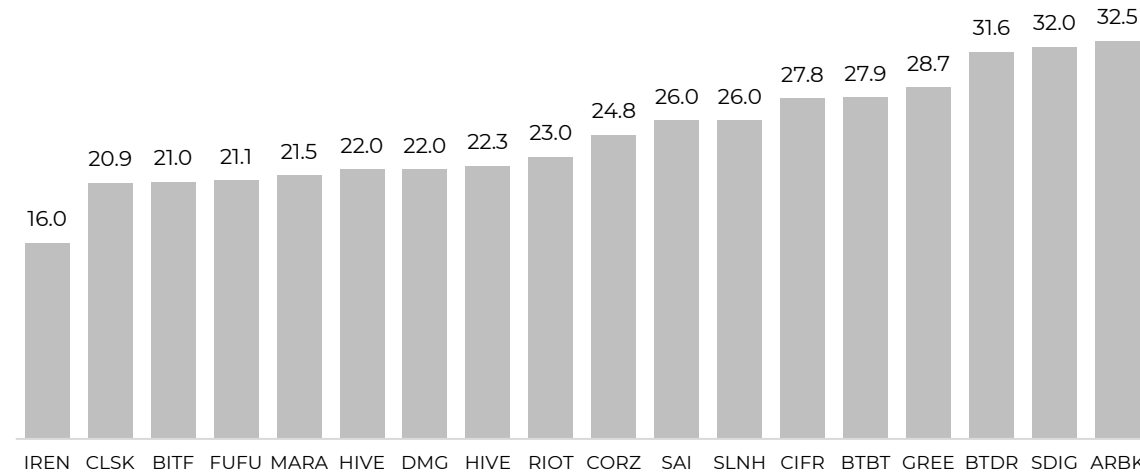
Current Installed Capacity (MW)

(MW)



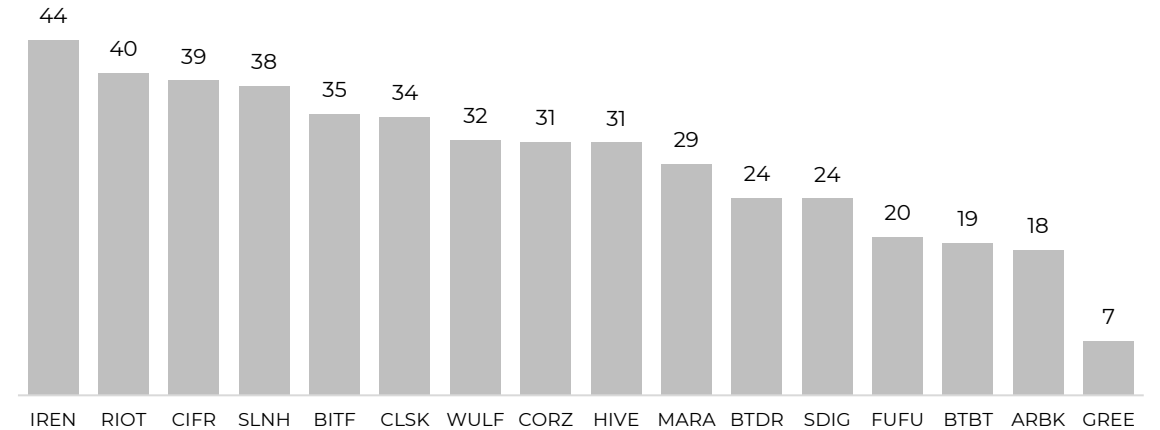
Current Fleet Efficiency (J/TH)

(J/TH)



Hashspread⁽¹⁾ (\$/PH/Day)

(\$/PH/Day)



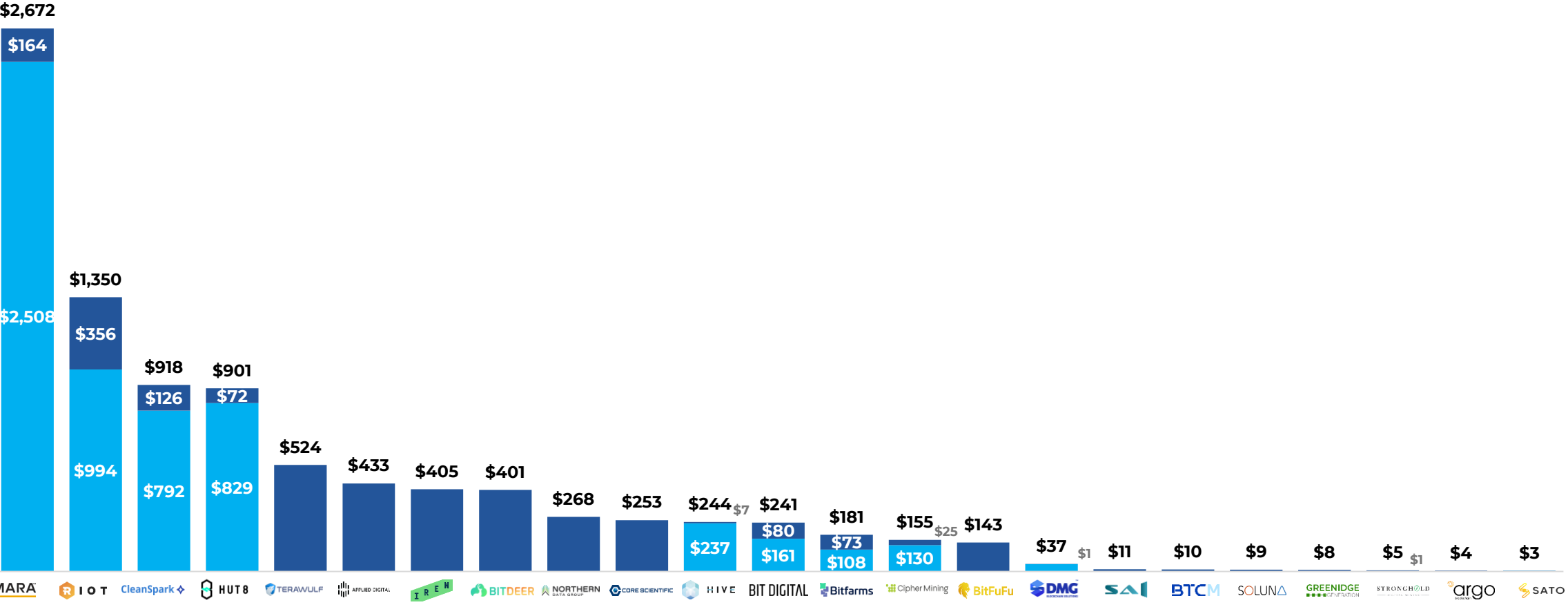
Note: Hut 8 capacity includes capacity under management

Source: FactSet, investor presentations, press releases and other public filings. Market data as of November 13, 2024. Mining metrics as of October 2024

(1) Hashspread calculated as hashprice of \$57.0/PH/day minus hashcost; hashcost calculated as power cost/MWh *24* fleet efficiency (J/TH) / 1000

Cash and Bitcoin Holdings of Bitcoin Miners

■ Cash (\$M)
 ■ BTC (\$M) (Market Value Based on BTC Price of \$91,000)

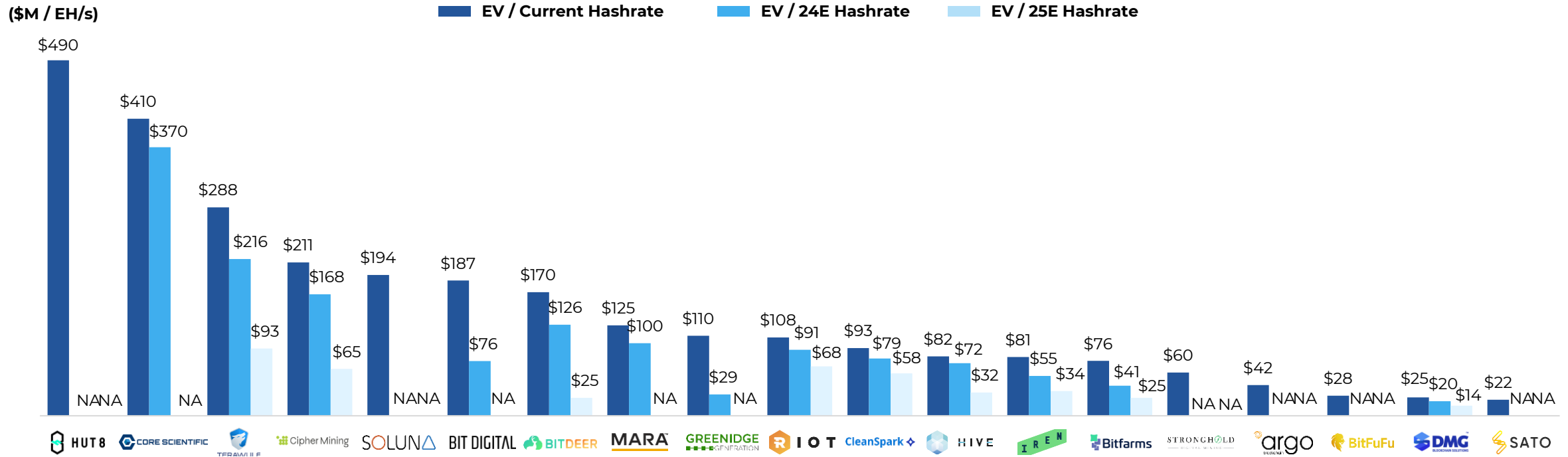


Company	# of BTC Holdings
MARA	27,562
RIOT	10,928
CleanSpark	8,701
HUT8	9,110
TERAWULF	NA
AMPLIFIED DIGITAL	NA
IREN	NA
BITDEER	NA
NORTHERN DATA GROUP	NA
CORE SCIENTIFIC	NA
HIVE	2,604
BIT DIGITAL	1,769
Bitfarms	1,188
Cipher Mining	1,428
BitFuFu	NA
DMG	399
S&I	NA
BTCM	NA
SOLUNA	NA
GREENIDGE GENERATION	NA
STRONGHOLD	10
argo	4
SATO	32

*NA: Company does not disclose number of BTC

Source: Investor presentations, press releases and other public filings. Market data as of November 13, 2024. Bitcoin on balance sheet as of October 2024

EV / Hashrate Multiples – Bitcoin Miners



	Hashrate (EH/s)																		
Current	5.6	19.7	10.0	10.7	0.7	2.4	8.7	40.2	0.8	29.4	31.3	5.3	21.0	11.5	2.5	2.7	26.2	1.7	0.6
2024E	NA	21.8	13.3	13.5	NA	6.0	11.8	50.0	3.0	34.9	37.0	6.0	31.0	21.0	NA	NA	NA	2.1	NA
2025E	NA	NA	31.0	35.0	NA	NA	60.0	NA	NA	46.7	50.0	13.5	50.0	35.0	NA	NA	NA	3.0	NA

*NA: Company does not disclose projected Hashrate

Recent Larger Financings by Bitcoin Miners

Closed Date	Issuer	Gross Proceeds (\$M)	Size as a % of Market Cap	Financing Type	Investor	Maturity	Interest	Conversion Price / Premium	Warrants / % Coverage	Warrant Terms	Expected Dilution %	Δ% in Stock Since Closing
11/4/2024	Applied Digital Corporation	\$450	28.4%	Convertible Senior Notes	Syndicated	6/1/2030	2.75%	\$9.75; 33%	-	-	21.4%	+12.1%
10/25/2024	TeraWulf Inc.	\$500	20.4%	Convertible Senior Notes	Syndicated	2/1/2030	2.75%	\$8.48; 33%	-	-	15.4%	+15.6%
9/5/2024	Applied Digital Corporation	\$160	31.4%	Common Stock	Nvidia & Related Companies	-	-	Priced at 9/5 Market Price	-	-	31.4%	+123.5%
8/30/2024	Applied Digital Corporation	\$50	8.7%	Convertible Preferred Stock	Yorkville Advisors	-	8.00%	\$7.00; 92%	-	-	4.5%	+89.5%
8/20/2024	Bitdeer Technologies Group	\$173	18.0%	Convertible Senior Notes	Syndicated	8/15/2029	8.50%	\$8.55; 35%	-	-	13.2%	+61.0%
8/19/2024	Core Scientific	\$460	18.8%	Convertible Senior Notes	Syndicated	9/1/2029	3.00%	\$11.00; 30%	-	-	16.2%	+56.9%
8/14/2024	Marathon Digital Holdings	\$300	6.0%	Convertible Senior Notes	Syndicated	9/1/2031	2.125%	\$18.89; 11%	-	-	5.4%	+36.0%
7/1/2024	Hut 8 Corporation	\$150	13.4%	Convertible Notes	Coatue	7/1/2029	8.00%	\$16.34; 45%	-	-	10.1%	+68.5%
6/7/2024	Applied Digital Corporation	\$125	20.7%	Promissory Note w/ \$75M Accordion	CIM Group	6/7/2027	12.00%	-	9.3M; 7.4% Warrant Coverage	\$4.80 Strike; 5 Years	2.2%	+47.2%
5/24/2024	Applied Digital Corporation	\$43	7.6%	Convertible Unsecured Debentures	Syndicated	5/24/2025	None	Floating; Lower of \$8 and 95% VWAP	-	-	4.3% at \$8 Conversion Price; 11.4% at \$3 Floor Price	+70.4%
3/27/2024	Applied Digital Corporation	\$50	11.0%	Convertible Unsecured Debentures	Syndicated	4/8/2025	None	Floating; Lower of \$6 and 95% VWAP	-	-	7.8% at \$6 Conversion Price; 15.7% at \$3 Floor Price	+67.2%

Source: FactSet data as of November 15, 2024; Public Filings
Note: Includes deals >\$40M in size

Bitcoin Mining Transactions Since June 2017

Date	Buyer	Target	Target Location	Deal Value (\$M)	EV / MW (\$K)
11/6/2024	Core Scientific	Leased a new Data Center with 11 MW of capacity	Alabama	N/A	N/A
11/5/2024	MARA Holdings	Two Operational Data Centers	Hannibal,OH and Hopedale, OH	N/A	N/A
11/5/2024	MARA Holdings	Greenfield Data Center	Findlay, OH	N/A	N/A
10/28/2024	DMG Blockchain Solutions	Acquisition of Reactor.xyz	N/A	N/A	N/A
10/22/2024	BitFuFu	Acquire a majority stake in an 80-MW Bitcoin Mining Facility	Ethiopia	N/A	N/A
10/16/2024	Iris Energy	Secured 800 additional acres of land	N/A	N/A	N/A
10/15/2024	Cipher Mining	Signed Option Agreements to Acquire three sites from Juvo Energy	West and North Texas	N/A	N/A
10/14/2024	Bit Digital	Acquired Enovum Data Centers	Montreal, Canada	\$46	N/M
10/10/2024	TeraWulf	Ground Lease at Lake Mariner Facility	Lake Ontario, Western New York (Upstate)	\$88	N/A
10/3/2024	Talen Energy Corp	TeraWulf's 25% share in Nautilus and full control on legacy PPA	Berwick, PA	\$92	\$1,840 ⁽¹⁾
9/17/2024	CleanSpark	Two Bitcoin Mining Sites and Associated Land	Clinton, MS	\$6	N/A
9/16/2024	Soluna Holdings	Power and Land Acquisition for Rosa Data Center	Texas	N/A	N/A
9/11/2024	CleanSpark	Seven Bitcoin Mining Facilities	Knoxville, TN	\$28	N/A
8/27/2024	Cipher Mining	300 MW Data Center Site in West Texas	West Texas	\$68	\$225 ⁽²⁾
8/21/2024	Bitfarms	Stronghold Digital Mining	Kennerdell, PA	\$175	\$570 ⁽³⁾
8/20/2024	Cryphon Digital Mining	2.9 MW of bitcoin mining operations	Louisiana	\$2	\$517
8/13/2024	Cipher Mining	Reveille datacenter site	Cotulla, TX	N/A	N/A
7/31/2024	HIVE Blockchain Technologies	100 MW Site in Paraguay	Paraguay	N/A	N/A
7/23/2024	Riot Platforms	Block Mining	Kentucky	\$93	\$597 ⁽⁴⁾
7/9/2024	Hut 8	205MW for a site in West Texas	West Texas	N/A	N/A
6/28/2024	Bitdeer	Monroe County Port Authority	Clarington, OH	N/A	N/A
6/27/2024	CleanSpark	GRIID Infrastructure	Cincinnati, OH	\$155	\$1,047 ⁽⁵⁾
6/18/2024	CleanSpark	Five New Bitcoin Mining Facilities in Georgia	Georgia	\$26	\$430
6/13/2024	Bitfarms	120MW site in Sharon, Pennsylvania	Sharon, PA	\$4	\$313
5/29/2024	Northern Data	Penguin Group	Asuncion, Paraguay	N/A	N/A
5/24/2024	Northern Data	300MW of data center location	Corpus Christi, TX	N/A	N/A
5/9/2024	CleanSpark	75 MW of Bitcoin Mining Sites	Wyoming	\$19	\$250
3/15/2024	Marathon Digital Holdings	200MW Data Center from Applied Digital	Garden City, TX	\$87	\$437
3/11/2024	Greenidge	Mississippi & North Dakota Sites	Mississippi, ND	N/A	N/A
3/5/2024	Undisclosed Buyer	Mirabel Facility of Argo Blockchain	Mirabel, Canada	\$6	\$1,220
2/27/2024	CleanSpark	Three Turnkey Bitcoin Mining Facilities (MS)	Mississippi	\$20	N/A
2/27/2024	CleanSpark	Bitcoin Mining Facility in Dalton, GA	Dalton, GA	\$3	N/A
2/1/2024	Ionic Digital	Bitcoin Mining Assets of Celsius Mining	Hoboken, NJ	N/A	N/A
12/19/2023	Marathon Digital Holdings	Two Bitcoin Mining Facilities (TX and NE) of Generate Capital	Granbury, TX / Kearney, NE	\$179	\$458
12/12/2023	Millenium	Gibbons Creek Power Facility	Grimes County, TX	N/A	N/A
12/12/2023	Northern Data	300MW Corpus Christi Site from Saxet	Corpus Christi, TX	N/A	N/A
11/27/2023	HIVE Blockchain Technologies	Certain Assets of Turis AB	Boden, Sweden	\$2	\$375
11/15/2023	NYDIG	Greenidge Generation's South Carolina Mining Site	Spartanburg, SC	\$28	\$636
11/6/2023	Cipher Mining	Black Pearl Mining Site of Trinity Mining Group	Winkler County, TX	\$9	N/A
11/2/2023	Quantum Expeditions	Badgerland Mining Club (WholeCo, Mining Only)	Canada	\$3	\$2,600
9/15/2023	Celsius	Core Scientific's Cedarvale Site	Ward County, TX	\$45	\$209
6/21/2023	Arkon Energy	200MW Data Center from Amber Group	Hannibal, OH	N/A	N/A

Source: FactSet; Pitchbook; Public filings, Cohen & Company Capital Markets intelligence

Note: For acquisitions of mining facility only, target locations indicate the location of mining operation. For acquisitions of WholeCo with non-mining assets, target locations indicate company headquarters

(1) Multiple based on Terawulf's 50MW operating capacity at Nautilus and total transaction proceeds of \$92M (2) Deal value represents cash payment only, excluding the variable fee of \$3/MWh for the initial five years after the energization of the site (3) Multiple is based on total capacity of ~307MW including current online and near-term expansion / contracted (4) Multiple based on 155MW developable at Commerce Drive and Blue Steel sites. Excludes earnout (5) Multiple based on capacity of 148MW. Includes capacity at Lenoir City as well as at the new facility in Tennessee

Bitcoin Mining Transactions Since June 2017 (cont'd)

Date	Buyer	Target	Target Location	Deal Value (\$M)	EV / MW (\$K)
6/21/2023	CleanSpark	Two Bitcoin Mining Facilities from Coinmaker / Makerstar	Dalton, GA	\$9	\$465
5/25/2023	Fahrenheit	Celsius Network (WholeCo, Includes Non-Mining Assets)	Hoboken, NJ	N/A	N/A
5/4/2023	BlockQuarry	Blockchain Energy Services (WholeCo, Includes Non-Mining Assets) ⁽¹⁾	Cheyenne, WY	\$1	\$200
4/11/2023	Bitfarms	Baie-Comeau, Quebec Hydro Power Facility	Baie-Comeau, Canada	\$2	\$82
2/7/2023	Hut 8 Mining	U.S. Bitcoin Corp (WholeCo, Mining Only) ⁽²⁾	Medicine Hat, AB / Drumheller, AB / Niagara Falls, NY / Kearney, NB / Granbury, TX / King Mountain TX	\$495	\$678
1/27/2023	Akerna	Gryphon Digital Mining (WholeCo, Mining Only)	New York	\$125	\$4,456
1/12/2023	Evergreen Sustainable Enterprises (Cryptorica)	Toro Energía Sociedad Anonima (WholeCo, Includes Non-Mining Assets) ⁽³⁾	Alajuela, Costa Rica	\$3	\$3,438
12/28/2022	Galaxy Digital Holdings	Helios Facility of Argo Blockchain	Dickens County, TX	\$65	\$361
12/1/2022	U.S. Bitcoin Corp	Certain Assets of Compute North	King Mountain, TX	\$222	\$793
11/22/2022	Foundry Digital	Certain Assets of Compute North	North Sioux City, SD / Big Springs, TX / Minden, NE	\$14	\$824
11/1/2022	Generate Capital	Certain Assets of Compute North	Wolf Hollow, TX / Kearney, NE	\$106	\$265
10/12/2022	Crusoe Energy Systems	Great American Mining (WholeCo, Includes Non-Mining Assets)	Dickinson, ND	N/A	N/A
9/9/2022	CleanSpark	Certain Assets of Mawson Infrastructure Group	Dalton, GA	\$43	\$531
8/18/2022	Vinanz	Certain Assets of Valereum	Nebraska	\$1	N/A
8/9/2022	CleanSpark	Certain Assets of Waha Technologies	Washington, GA	\$16	\$450
4/24/2022	American Premium Water	CloudXchange DataCentre (WholeCo, Mining Only)	Singapore / Malaysia / TX, USA	\$46	N/A
2/17/2022	Redivider Blockchain	EnergyX (WholeCo, Includes Non-Mining Assets)	College Station, TX	N/A	N/A
1/31/2022	Advanced Mining Group	Vbit Technologies (WholeCo, Mining Only)	United States, Canada, Kazakhstan	\$105	N/A
11/29/2021	Windmill	KingHash (WholeCo, Includes Non-Mining Assets)	Singapore	N/A	N/A
11/9/2021	Bitfarms	Hydro Power Facility	Moses Lake, WA	\$27	\$1,112
9/27/2021	Northern Data	Bitfield (WholeCo, Mining Only) ⁽⁴⁾	Amsterdam, Netherlands	\$355	N/A
8/24/2021	Blockstream	Spondoolies (WholeCo, Includes Non-Mining Assets)	Ness Ziona, Israel	N/A	N/A
8/14/2021	Britannia Mining	Bullet Blockchain (WholeCo, Mining Only)	Aktobe, Kazakhstan	N/A	N/A
7/6/2021	TRON Group	American Crypto Systems (WholeCo, Mining Only)	Boise Valley, ID	N/A	N/A
6/4/2021	The9	Montcrypto (WholeCo, Includes Non-Mining Assets)	Calgary, Canada	N/A	N/A
4/8/2021	Riot Blockchain	Whinstone (WholeCo, Mining Only)	Rockdale, TX	\$651	\$2,169
4/5/2021	500.com (BIT Mining)	Bee Computing (WholeCo, Includes Non-Mining Assets)	Hong Kong, Hong Kong	\$100	N/A
4/1/2021	Future Fintech Group	Nanjing Ribensi Electronic Technology (WholeCo, Mining Only)	Sichuan Province, China	\$1	N/A
2/10/2021	LUXXFOLIO Holdings	WestBlock Capital (WholeCo, Mining Only)	New Mexico	\$4	\$293
12/30/2020	Wize Pharma	Cosmos Capital (Mawson Infrastructure Group) (WholeCo, Includes Non-Mining Assets)	Sydney, Australia	\$66	N/A
12/10/2020	CleanSpark	ATL Data Centers (WholeCo, Includes Non-Mining Assets)	College Park, GA	\$26	\$1,315
11/23/2020	HIVE Blockchain Technologies	GPU.one (WholeCo, Mining Only)	New Brunswick, Canada	\$19	\$374
10/7/2020	Argo Blockchain	Certain Assets of GPU.one	Quebec, Canada	\$14	\$696
3/30/2020	HIVE Blockchain Technologies	9376-9974 Quebec (Subsidiary of Cryptologic) (WholeCo, Mining Only)	Quebec, Canada	\$4	\$123
11/18/2019	Northern Data	Whinstone US (WholeCo, Mining Only)	Netherlands, Louisiana, Texas	\$135	\$676
3/26/2018	HIVE Blockchain Technologies	Kolos Norway (WholeCo, Mining Only)	Ballangen, Norway	\$12	\$409
1/14/2018	Blockchain Mining	Backbone Hosting Solutions (WholeCo, Mining Only)	Quebec, Canada	\$437	N/M
11/1/2017	Riot Blockchain	Kairos Global Technology (WholeCo, Mining Only) ⁽⁴⁾	Miami Beach, FL	\$12	N/A
6/14/2017	HIVE Blockchain Technologies	Certain Assets of Genesis Mining	Reykjanes, Iceland	\$45	N/M
Median					\$517

Source: FactSet; Pitchbook; Public filings, Cohen & Company Capital Markets intelligence

Note: For acquisitions of mining facility only, target locations indicate the location of mining operation. For acquisitions of WholeCo with non-mining assets, target locations indicate company headquarters

(1) Acquisition includes substantial non-Bitcoin mining operations or assets (2) Merger of equals. Deal value shown for USBTC based on USBTC's 50% pro forma ownership of the combined entity with a market capitalization of \$990M (3) Acquisition includes substantial non-Bitcoin mining operations or assets (4) Location of operations not disclosed, displaying HQ location

Disclaimer

Cohen and Company Capital Markets a division of J.V.B. Financial Group, LLC / Member FINRA, SIPC an indirect subsidiary of Cohen & Company, Inc. (NYSE: COHN; “Cohen”). These materials are for discussion purposes only and were prepared exclusively for the benefit of the recipient (including its affiliates, the “Recipient”). These materials were prepared in order to assist the Recipient in evaluating, on a preliminary basis, the feasibility of a possible transaction or series of transactions and do not carry any right of publication or disclosure, in whole or in part, to any other party. Neither this presentation nor any of its contents may be disclosed or used for any other purpose without the prior written consent of J.V.B. Financial Group, LLC (“JVB”).

The information contained herein is confidential and is solely for the intended Recipient’s attention, and may not be distributed, copied, or shared with any party other than with the prior written approval of JVB. This is not an offer or solicitation of any offer to buy or sell any security or other investment product, nor do these materials constitute legal, accounting, tax, or investment advice. Although the information contained herein is believed to be correct, neither JVB nor any of its respective subsidiaries and affiliates makes any guarantees, express or implied, as to its completeness or accuracy.

The information in this presentation reflects prevailing conditions and JVB’s views as of the date of this presentation, all of which are accordingly subject to change, and JVB has no obligation to update this information in the future. JVB’s opinions and estimates constitute JVB’s judgment and should be regarded as indicative, preliminary and for illustrative purposes only.

The internal projections are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements may involve unknown risks and uncertainties, which may cause actual performance and financial results in future periods to differ materially from any projections of future performance expressed or implied by such forward-looking statements.

Neither JVB nor any of its subsidiaries and affiliates makes any representations as to the actual value which may be received in connection with a transaction or the legal, tax or accounting effects of consummating a transaction.

JVB does not provide any tax advice herein. This presentation is not intended or written, and cannot be used, for the purpose of avoiding U.S. federal, state or local tax penalties. This presentation was written to support the promotion or marketing of the matters addressed herein. Each taxpayer should seek advice based on the taxpayer’s particular circumstances from an independent tax advisor.

Securities are offered through J.V.B. Financial Group, LLC, a broker-dealer registered with the United States Securities and Exchange Commission and a member of FINRA and SIPC. Non-securities products and services are offered through one of the JVB affiliates. Securities: Are Not FDIC Insured – Are Not Bank Guaranteed – May Lose Value – Are Not a Bank Deposit – Are Not a Condition to Any Banking Service or Activity – Are Not Insured by Any Federal Government Agency.