Americas Technology: Sizing the AI Economy Needed to Justify ROIC on Hyperscaler AI Capex

Eric Sheridan
+1(917)343-8683 | eric.sheridan@gs.com
Goldman Sachs & Co. LLC

Gabriela Borges, CFA
+1(212)902-7839 | gabriela.borges@gs.com
Goldman Sachs & Co. LLC

James Schneider, Ph.D.
+1(212)357-2929 | jim.schneider@gs.com
Goldman Sachs & Co. LLC

Alex Vegliante, CFA
+1(212)934-1878 | alex.vegliante@gs.com
Goldman Sachs & Co. LLC

Julia Fein-Ashley
+1(212)902-5070 | julia.fein-ashley@gs.com
Goldman Sachs & Co. LLC

Emma Huang
+1(212)902-7229 | emma.huang@gs.com
Goldman Sachs & Co. LLC

Callie Valenti
+1(212)357-2790 | callie.valenti@gs.com
Goldman Sachs & Co. LLC

Maura Hager
+1(212)9028724 | maura.hager@gs.com
Goldman Sachs & Co. LLC

Selina Zhang
+1(212)357-9979 | selina.zhang@gs.com
Goldman Sachs & Co. LLC

Anmol Makkar
+1(212)357-1366 | anmol.makkar@gs.com
Goldman Sachs & Co. LLC

Against rising compute needs to match outsized and growing AI token consumption, the US-based hyperscalers have undergone a dramatic transformation around capital intensity to match this computational shift. These investments are being made against a combination of both real-time demand signals (in a current supply/demand imbalance) and multi-year compute needs of key customers. Throughout this year (and most notably with this past Q2 earnings season), we've noticed that this theme has become better understood – from earnings results and company commentary, investors have achieved greater comfort that both (a) the hyperscalers are earning a sufficient (if not outsized) return on prior-period capex (CY2023-25) through incremental revenues and operating cash flow and (b) that the hyperscalers are currently undergoing the next phase of capex spend (CY2026-27) against a compute-constrained and accelerating end demand environment (producing pricing levels for compute solidly above our assumed long-term baseline). As a result, the debate has shifted in the past few months toward a more forward outlook: how current period capex spend (across CY2026-27) might deliver a return in future (CY2028-30) periods (and how current ROIC earned on prior-period capex can be used as a baseline). In this report, **we introduce a framework to analyze the necessary output from the AI economy in order to earn a baseline return on invested capital ("ROIC") on the current levels of capex spend from the US-based hyperscalers.**

Our analysis in this report focuses on **the revenue hurdles required to produce a 15% annual ROIC on "Phase 2" (CY2026-27) AI-compute investments deployed by the US-based hyperscalers**. Based on various assumptions (an average upfront cost of ~$42bn per Gigawatt (GW); a buildout mix of ~70% "compute" v. ~30% "shells"; conservative depreciation schedules; ongoing operating cost assumptions; etc.), the analysis implies that **the six major US-based hyperscalers (Alphabet, Amazon, Microsoft, Meta, Oracle and SpaceX) must generate a combined ~$1.42 trillion of cumulative CY2028–30 revenues (or ~$11.6 billion of annual revenue per GW) to clear the 15% ROIC hurdle**. While we expect near-term returns to compress (as near-term results are muted by an accelerated capex cycle), we expect the attractive ROIC on current period capex to be better realized in operating results over the medium-to-long-term. Said differently, we frame the near-term return compression as a natural consequence of the massive upfront investment cycle rather than evidence of structurally poor AI economics.

Across a series of notes sizing the token economy (link), the scope for consumer AI

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development (link | link) and the enterprise landscape (link), we have outlined how market share shifts and deflationary token pricing might increase AI adoption and result in rising utility cases across both consumer and enterprise compute. While current market debates have focused on how foundational model companies (operating at the frontier of AI capabilities) might evolve in terms of their market share and the pricing power of their compute (relative to competition from open source/open weight models), we see price/performance of compute as being the landscape for an AI economy that is larger in its scale and scope. Having a number of different models/intelligence levels on an efficient price/performance curve will unlock a range of use cases from "commoditized" intelligence (seeing outsized deflationary pricing) to frontier/"bleeding edge" intelligence (with more resilient pricing power) and be overall supportive of the level of spend today by compute infrastructure providers. In short, while not every token will have the same economics nor every dollar of capex generate a uniform return, in totality we still see a solid return profile to the capital being deployed in the coming 18 months against the scope of the market opportunity in the coming 3-5 years.

This was recently on display at our Communacopia + Technology conference (link | link | link), with companies demonstrating: **(a) how experimentation was resulting in a shift toward implementation**; **(b) how productivity-driven returns and product development cycles were being accelerated**; and **(c) how a focused shift from token-maxing to token-optimizing was improving the return profile for enterprises and thus acting as a lead indicator for more enterprise adoption** (a direct correlative driver of hyperscaler revenue and incremental operating profit against prior period capex). In addition, the recent releases of prominent consumer-facing agentic AI products (most notably Meta's Muse) has sparked a potential paradigm shift from conversational AI canvases to more agentic-driven action ones across consumer AI (link) – the scaling of these agentic AI platforms (including the likely subsequent competitive moves by other scaled players aiming for their role at the platform layer of consumer AI) is a potential driver of more compute needs to be followed medium to long term by monetization mechanisms tied to elements of subscription, advertising and commerce (with our frequent framing of blurred lines between those approaches being at the center of any future revenue scaling).

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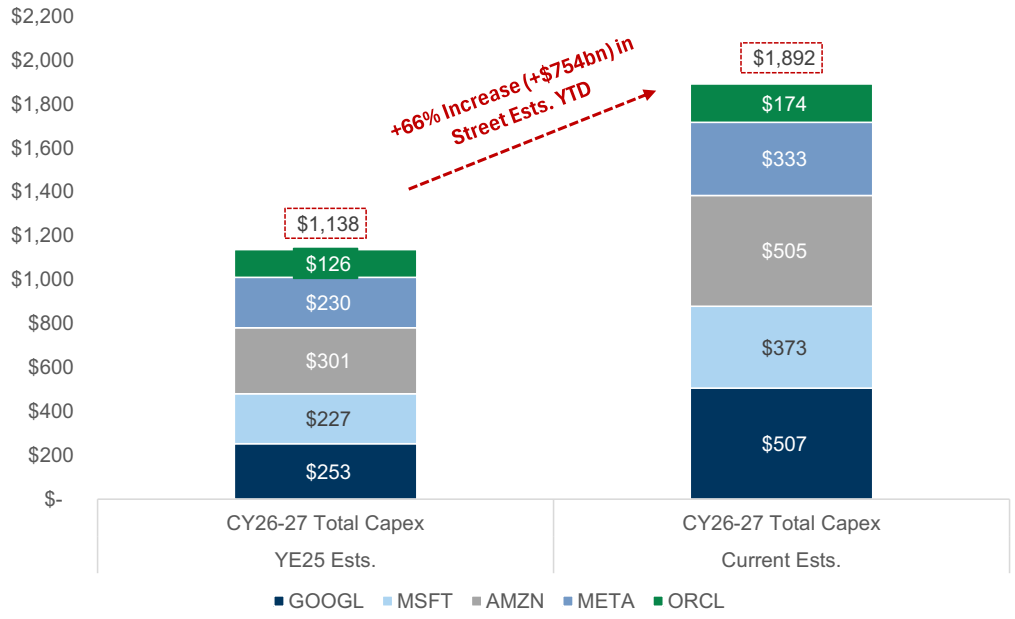
Framing The Current State of Hyperscaler Capex (and Key Investor Debates)

Capital intensity remains high as the US hyperscalers accelerate AI compute buildout. On the back of the demand curve for AI tokens (and corresponding demand for compute capacity), the capital intensity of the US-based hyperscalers has scaled to demonstrably higher levels than seen in prior compute cycles. One of the dominant themes at our recent Communacopia + Technology conference (link | link | link) was that the overall industry remains capacity-constrained and, as a result, the current pace of capital spending over the next 12-18 months is sustaining and aimed at closing this supply/demand imbalance.

That said, this near-term capex spend is already well understood by investors. Having already been well signaled by the companies (through explicit current-period guidance and/or qualitative framing of investment priorities), we believe the near-term (CY26-27) capex spend levels are now well understood and priced into the stocks at current levels — since the start of the year, Visible Alpha Consensus Data capex estimates for CY26-27 for the five US-based hyperscalers that were public at the start of the year (GOOGL, MSFT, AMZN, META and ORCL) have risen by ~66% (or a combined ~$750bn total increase for both years across the five companies). Even still, we remain broadly ahead of consensus Street estimates on CY27 capex estimates (and believe our above-Street estimates are more aligned with investor expectations).

Exhibit 1: Since the start of 2026, consensus CY26-27 capex estimates for the 5 US-based hyperscalers (GOOGL, MSFT, AMZN, META and ORCL) have risen by ~66% (or a combined ~$750bn total)

Consensus CY26-27 US-Based Hyperscaler Capex Ests. ($bn), at YE2025 v. Current



"Current" represents data as of 9/23/26; MSFT capex represents additions to PP&E (excl. capital leases)

Source: Visible Alpha Consensus Data, Data compiled by Goldman Sachs Global Investment Research

ROIC on this capex and longer-term (CY28 and beyond) capital intensity remain the biggest outstanding debates. As near-term capital intensity levels have become better understood, the biggest overhangs facing the US-based hyperscalers (and what

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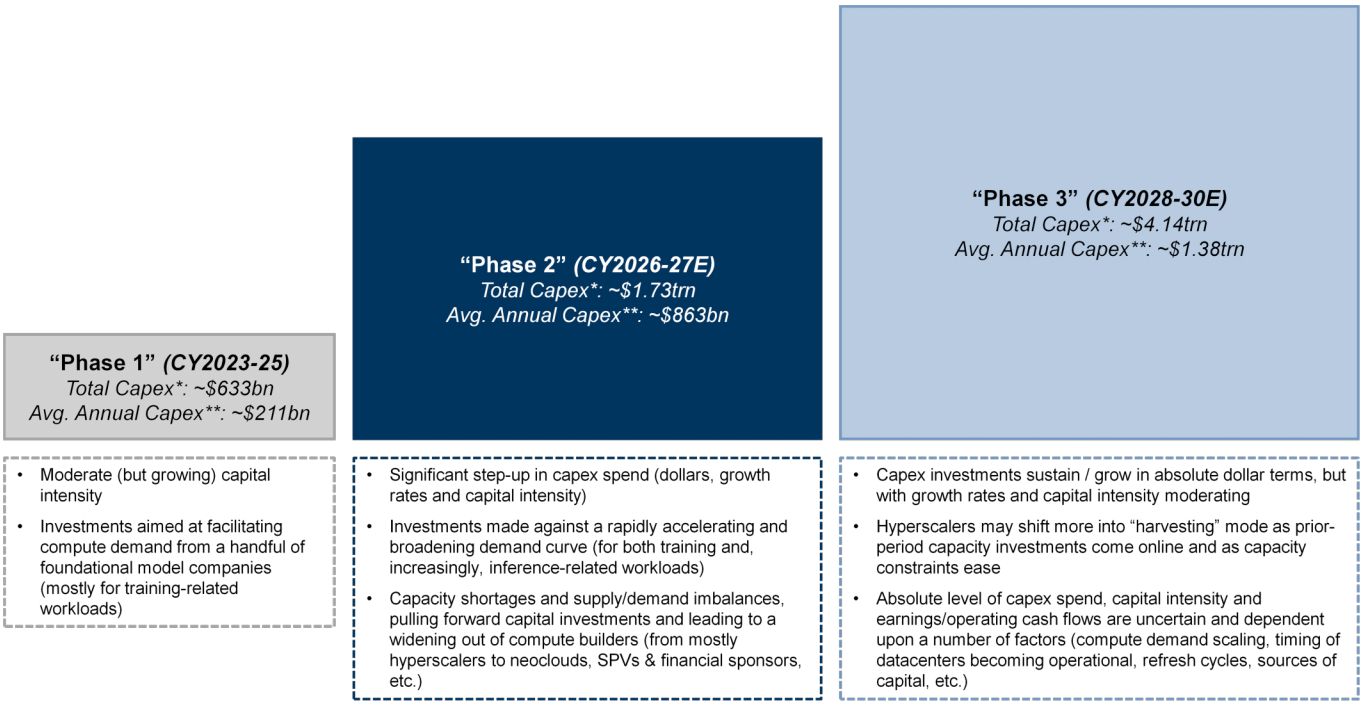
investors are currently seeking greater visibility into) remain two inter-related debates: **(1) what will be the return on this near-term (CY26-27) capex spend and (2) what will long-term (CY28 and beyond) capex / capital intensity look like?** While the likely trajectory of capex spending over the CY2026-28 timeframe has a great level of investor appreciation and more reflected in Street estimates (including our own) than at any point in the past 12-18 months, the continued debate among investors is how large a market opportunity for the AI economy is needed across CY2027-30 to generate adequate returns on that aggregate level of spend across the next several years — we attempt to address this debate with our framework below.

Exhibit 2: 3 Phases of US-Based Hyperscaler AI Compute Buildout
CY2023-30E



*Total capex reflects GSe relevant AI-compute related capex: 85% of GSe total company capex for GOOGL, MSFT and META; 90% of GSe total company capex for ORCL; GSe AWS segment capex for AMZN; GSe AI segment capex for SPCX. **Average annual capex reflects the total aggregate capex spend in a given phase divided by the number of years in each phase.

Source: Company data, Goldman Sachs Global Investment Research

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Bottom-Up Views on AI Infrastructure Capex — A Semiconductor Perspective

We present our view on the overall levels of AI infrastructure capex over the next three years, based on the latest guidance from the semiconductor supply chain. Over the past three years, the supply chain has been a reliable indicator of the direction of travel for AI infrastructure capex spending trends. In general, bottom-up supply chain datapoints and company guidance are far from a perfect predictor of quantitative trends — especially in a supply-constrained environment that encourages customers to be more aggressive in their forecasts. However, in the medium term we believe they remain a good indicator of spending trends. On the demand side, we believe semiconductor investors are concerned about the potential "funding gap" between what AI infrastructure providers are spending on capex today relative to the level of present-day EBITDA/FCF they generate. On the supply side, the most discussed risk is the amount of datacenter land/power/shell that will be available to satisfy the planned infrastructure capex — especially in 2028 and beyond.

Here, we present our implied estimates for AI infrastructure capex and associated datacenter deployments, based on semiconductor company guidance and our own forecasts (Exhibit 3). **We estimate AI infrastructure capex of approximately $1.3 trillion in 2027 (up 60% YoY) and $2.0 trillion in 2028 (up 42% YoY). In power terms, our analysis implies roughly 20 GW / 35 GW / 57 GW of AI datacenter deployments in 2026/27/28.** Importantly, these figures represent AI-specific infrastructure investment and extend beyond traditional hyperscaler capex to include AI labs (including the capex beyond what is contemplated as part of hyperscaler spending), sovereign AI enterprises, and corporate/enterprise customers.

We summarize these high-level datapoints below:

- **Broadcom (AVGO)** has provided guidance for 10GW and 20GW of AI-related deployments among its customers in FY27 and FY28, respectively, and has indicated its total compute/networking revenue opportunity in the datacenter stands at $20-30 billion per GW.
- **Nvidia (NVDA)** has stated that Blackwell systems (between compute and networking) represent roughly $25 billion of revenue per GW, and this figure is set to increase to ~$40 billion per GW for Rubin. We also assume an additional $5 billion per GW will be needed for the Feynman transition, which implies ~$45 billion of revenue per GW.
- **Advanced Micro Devices (AMD)** has outlined a $15 billion to $20 billion revenue opportunity per GW, and we use the midpoint of this range to estimate AMD-related AI datacenter deployments.
- **For Marvell (MRVL) and MediaTek (2454.TW)**, we apply a similar framework, using our assumptions for revenue per GW alongside our datacenter revenue forecasts to derive implied deployment levels.

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Exhibit 3: Our bottom-up AI Infrastructure Capex build implies $1.3tn/$2tn in annual AI infrastructure spending on compute/networking in 2027/28

	2026	2027	2028
Nvidia			
Total Blackwell GW Deployments	12	3	-
Total Rubin GW Deployments	2	15	19
Total Feynman GW Deployments			3
Total GW deployments	**14**	**18**	**22**
CapEx per GW ($bn)	50	50	50
Total CapEx with Nvidia products ($bn)	**682**	**879**	**1,091**
Broadcom			
Custom XPU revenue ($mn)	39,373	86,176	168,126
AI Connectivity revenue ($mn)	18,465	39,300	72,180
Total AI Revenue ($mn)	57,838	125,477	240,306
Total GW deployments	**5**	**10**	**20**
CapEx per GW ($bn)	25	25	25
Total CapEx with Broadcom products ($bn)	**126**	**250**	**500**
AMD			
Datacenter GPU revenue ($mn)	15,662	42,317	56,017
Revenue per GW ($mn)	17,500	17,500	17,500
Total GW Deployments	**1**	**2**	**3**
CapEx per GW ($bn)	35	35	35
Total CapEx with AMD products ($bn)	**31**	**85**	**112**
MediaTek			
Datacenter ASIC revenue ($mn)	2,200	20,250	52,500
Revenue per GW ($mn)	5,000	5,000	5,000
Total GW Deployments	**0.4**	**4**	**11**
CapEx per GW ($bn)	25	25	25
Total CapEx with MediaTek products ($bn)	**11**	**101**	**263**
Marvell			
Datacenter ASIC revenue ($mn)	2,283	4,662	8,435
Revenue per GW ($mn)	5,000	5,000	5,000
Total GW Deployments	**0.5**	**0.9**	**2**
CapEx per GW ($bn)	25	25	25
Total CapEx with Marvell products ($bn)	**11**	**23**	**42**
Consolidated Summary			
Total GW Deployments	20	35	57
Total AI CapEx ($bn)	**861**	**1,338**	**2,008**
Implied CapEx/GW ($bn)	42	38	35

Source: Company data, Goldman Sachs Global Investment Research

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Introducing a Framework to Analyze US Hyperscaler ROIC and the Necessary Output from the AI Economy

Below we provide a framework to answer this key question: **What is the aggregate revenue that the US-based hyperscalers need to earn in order to achieve a sufficient ROIC on this "Phase 2" (2026-27) AI capex buildout?**

Our US hyperscaler ROIC framework can be summarized by a few key points/assumptions:

- **Relevant Companies:** This analysis covers the "**US-Based Hyperscalers**", which we define as (in market cap order): **Alphabet (GOOGL)**, **Microsoft (MSFT)**, **Amazon (AMZN)**, **SpaceX (SPCX)**, **Meta Platforms (META)** and **Oracle (ORCL)**. We believe this cohort of companies represents a sufficient proxy for AI-related infrastructure/compute buildout and capital intensity (as it relates to this debate).
- **Defining "Phase 2" (2026-27) Capex:** We only include capex related to "AI compute" over the two-year period that we define as "Phase 2" (CY2026-27) to measure the revenue generation needed on this near-term buildout. Importantly, we are isolating this 2-year capex phase and do not include a) revenue/EBIT generated in CY26-27 as compute comes online or b) ongoing capex spend (and resulting revenues or operating expenses on that additional capacity) in CY28 and beyond. The amount of "AI compute" capex spend in Phase 2 utilizes our actual company-specific capex forecasts and includes only AI-related spend to the extent relevant (e.g. GSe AWS capex for AMZN; GSe AI-segment capex for SPCX; etc.) – for companies where AI v. Non-AI capex can't be easily estimated (e.g. GOOGL), we assume a flat ~85-90% of total company capex in CY26-27 goes toward AI compute. Finally, we categorize capex spend into two buckets, with a consistent % mix between the two: **(1) "Compute"** (servers/chips, networking hardware & equipment, etc.), or ~70% of 2-year capex, and **(2) "Shells"** (land, buildings and related infrastructure), or ~30% of 2-year capex.

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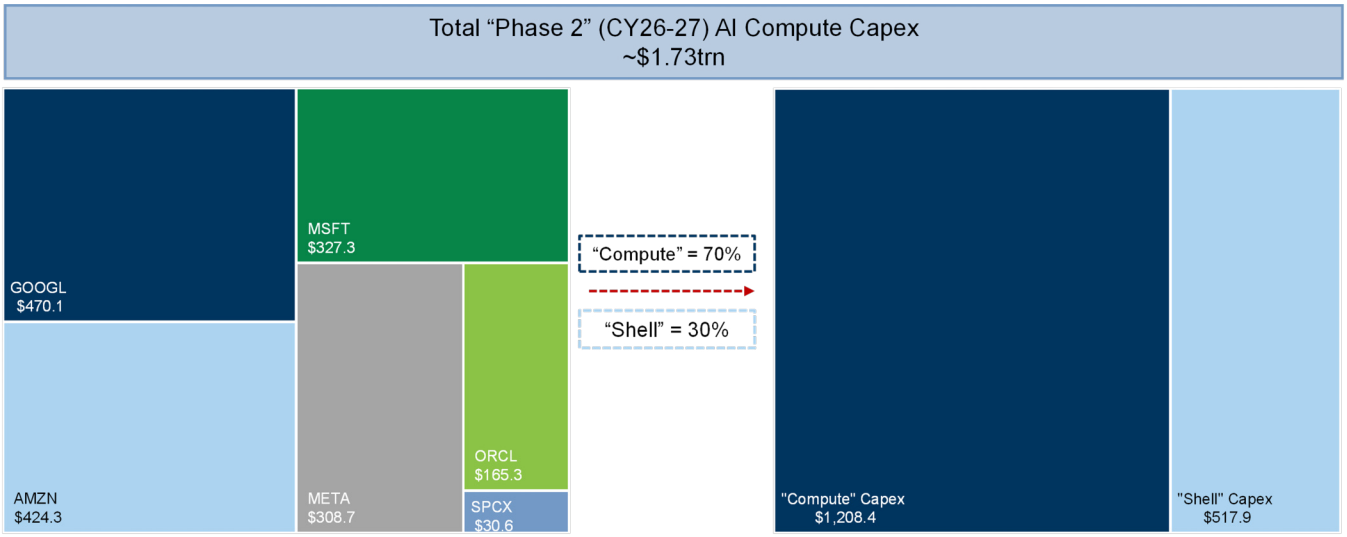
Exhibit 4: Breakdown of Aggregate "Phase 2" (CY26-27E) Capex, by Company and Asset Type



Total capex reflects GSe relevant AI-compute related capex: 85% of GSe total company capex for GOOGL, MSFT and META; 90% of GSe total company capex for ORCL; GSe AWS segment capex for AMZN; GSe AI segment capex for SPCX. "Compute" capex = spend on servers/chips, networking hardware and equipment; "Shell" capex = spend on land, buildings and related infrastructure

Source: Company data, Goldman Sachs Global Investment Research

- **Cost of Compute:** We assume a flat cost of ~$42/GW across the two-year period and across all six companies. We arrive at this $42bn/GW assumption from a variety of inputs: (a) leveraging cost input assumptions from Epoch AI as of year-end 2025 and assuming a 10% inflation rate from those YE25 figures (we use 10% to be consistent with the rate at which META + AMZN have revised up their capex guidance, citing input costs as the primary factor); (b) a blended average input cost per GW framework from our US Semiconductors coverage team (based on an assumed mix of datacenter capacity by hardware type); and (c) reported / implied realized costs of AI compute infrastructure buildouts YTD from the companies. Below (Exhibit 8) we also provide a scenario analysis flexing a range of capex per GW assumptions (between ~$34-51bn/GW).

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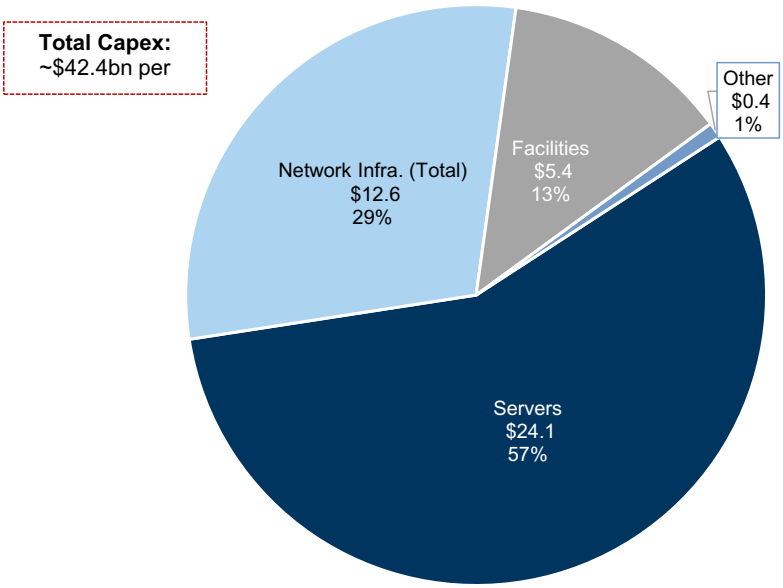
Exhibit 5: We assume a flat upfront capex cost of ~$42/GW for all 6 companies, with the majority going toward servers
Upfront Capex Cost per GW, by Asset Type



Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

- **ROIC Thresholds:** We use a flat 15% annual return, as defined by annual net operating profit after taxes ("NOPAT") earned in CY2028-30 as a % of average annual capex in CY2026-27. In Exhibit 8, we also provide a scenario analysis flexing a range of ROIC thresholds (between 0-30%). We note that the ROIC that the hyperscalers are currently seeing on capex spend (and what they are likely forecasting on this wave of capex) is almost certainly higher than this 15% threshold (see "How Have the Companies Framed ROIC?" section below). That said, our framework is designed to show the revenue needed to justify what we view as a reasonable (and likely conservative) 15% return threshold and address some investor concerns that the hyperscalers will realize an even lower (possibly negative) ROIC on current capex.
- **Operating Expenses (EBIT-to-Revenue Bridge):** We "gross up" the implied annual NOPAT in CY28-30 by an assumed 21% corporate tax rate (current US corporate income tax rate) to show the annual operating income ("EBIT") needed. From EBIT, we add the assumed annual operating expenses on the GWs of compute built out to show the annual revenue needed to clear the ROIC hurdle. The operating expenses can be categorized in two buckets: **(1) depreciation expense** – we assume a useful life of 5 years / 15 years on the "Compute" and "Shells" assets purchased in Phase 2, respectively, and factor in the resulting annual depreciation expense on those assets and **(2) non-D&A operating and maintenance expenses** – we assume an annual cost to operate these datacenters (power, labor, etc.) of $836mm/GW (this assumption is based on Epoch AI estimates [link] as of YE25 with an assumed 10% inflation rate).

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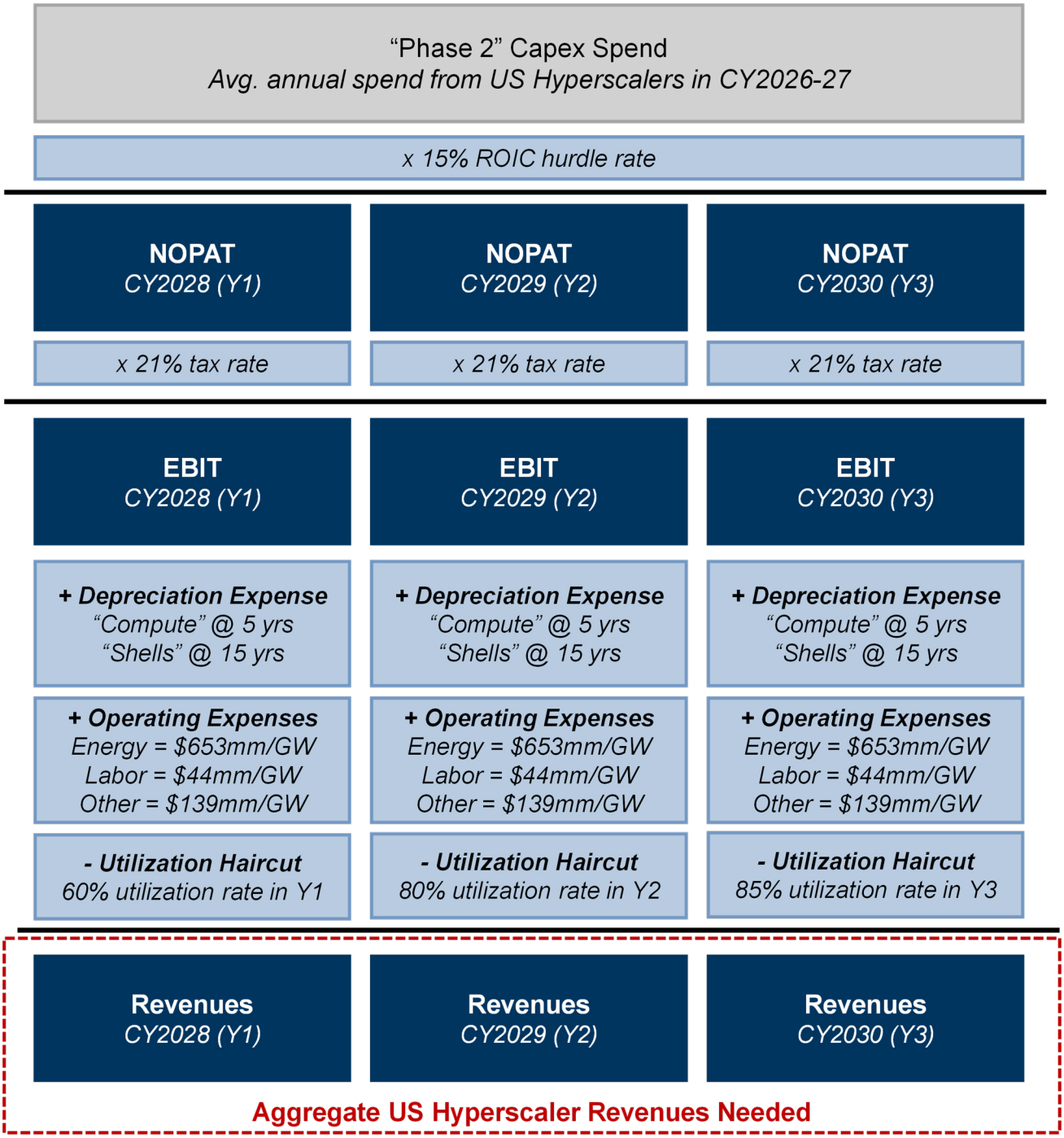
Exhibit 6: Summary of Hyperscaler ROIC Framework (Capex to Revenue Bridge)



Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

Importantly, we note below a few areas where this analysis might be overly simplistic or generalized – noting that this is meant to act as a broad framework (with the ability to toggle specific assumptions based on investors' own views/perspectives, industry or company developments in the coming months, etc.):

- **We are not factoring in post-Phase 2 (2028 and beyond) investments.** With this analysis, we attempt to isolate this current near-term wave of compute buildout (and the return needed to justify these next ~18 months of investments). Our

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published company-specific forecasts in 2028 and beyond differ from this analysis, given future periods are impacted by ongoing capital intensity in '28 and beyond.

- **The amount of compute capacity (in GWs) for each company is illustrative and not meant to be interpreted as actual capacity.** Included in our analysis is the implied number of gigawatts of compute capacity that each company would create for their given level of capex spend (assuming cost per GW, timelines for bringing capacity online, etc. are consistent/uniform across companies). There are sizable differences in the amount of capacity that each company currently has and the pipeline for how much each plans to bring online in the coming months (e.g. SPCX management have stated [link] that they expect to bring on ~5-10GWs of additional capacity online by YE27; press reports [link] indicate META plans to scale to ~7GWs by YE26 and ~14GWs by YE27) – we ignore these differences in an attempt to provide a uniform industry-wide ROIC framework.
- **We assume a consistent capex mix and useful life across hyperscalers.** Our assumption of a consistent % mix of capex spend across the two buckets ("Compute" and "Shells") and a consistent useful life (5 years and 15 years, respectively) on those two buckets of spend is overly simplistic (with companies being at different phases of the buildout spending on different types of assets and at various different useful economic lives) but meant to provide an illustrative framework across the industry.
- **We only include the six US-based hyperscalers in our analysis.** While the AI infrastructure/compute buildout encompasses a much larger set of industries/companies (neoclouds, corporate developers and datacenter owners, SPVs, frontier model companies, etc.), we attempt to frame the ROIC needed from the perspective of the six largest US-based hyperscalers under our coverage. We also, for the most part, only use capital expenditures related to the buildout of owned and operated datacenter compute capacity and exclude things such as off-balance sheet lease obligations, finance leases, SPVs and 3P compute licensing arrangements for a number of reasons (lack of full visibility into these items, the risk of "double counting" capital investments [e.g. Google-SpaceX compute licensing deal], etc.).

Our analysis implies that **in order to achieve a 15% ROIC on aggregate Phase 2 (CY2026-27) capex, the six US-based hyperscalers need to generate a cumulative ~$1.42trn of revenues in 2028-30 (or a blended average annual revenue per GW of ~$11.6bn/GW)**.

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Exhibit 7: A 15% ROIC on CY26-27 capex would imply an aggregate ~$1.42trn of revenues in CY28-30 (or a blended avg monetization rate of ~$11.6bn/GW)

US-Based Hyperscaler ROIC Framework

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (1,726,273)				*[AA]*
Revenue		**$ 465,374**	**$ 473,802**	**$ 475,909**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (20,403)	$ (27,204)	$ (28,904)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (276,204)	$ (276,204)	$ (276,204)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (4,881)	$ (6,508)	$ (6,915)	*[F] = [O] * Other cost per GW*
EBIT		**$ 163,887**	**$ 163,887**	**$ 163,887**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 129,470**	**$ 129,470**	**$ 129,470**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***41GW***				*[O]*
Revenue	**$ 1,415,085**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 491,660**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 388,411**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

Scenario Analysis: Flexing ROIC Hurdle Rates

Below we provide a scenario analysis of aggregate revenues that the US-based hyperscalers need to earn (total and per GW) by flexing two key input variables to our framework: **(1) assumed ROIC earned on Phase 2 capex** (between 0-30% ROIC) and **(2) assumed upfront capex cost per GW** (from ~$34-51bn/GW) achieved by the US hyperscalers on Phase 2 capex. This analysis implies that **in order to achieve a 0-30% range of ROICs on aggregate Phase 2 (CY26-27) capex, the six US-based hyperscalers would need to generate a cumulative ~$908bn-1.89trn of revenues in CY2028-30 (or a blended average annual revenue per GW of ~$6.2-18.6bn/GW).**

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Exhibit 8: In order to achieve a range of ROICs on aggregate Phase 2 (CY26-27) capex, the six US-based hyperscalers need to generate a cumulative ~$908bn-1.89trn1.11-1.73trn of revenues in CY2028-30 (or a blended average annual revenue per GW of ~$6.2-18.67.3-17.0bn/GW)

US-Based Hyperscaler ROIC Framework - Scenario Analysis ($bn)

Aggregate 2028-2030 Revenues Needed

CapEx per GW ($bn)	ROIC 30.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%
$ 50.9	$1,890.9	$ 1,727.1	$ 1,563.2	$ 1,399.3	$ 1,235.4	$ 1,071.5	$ 907.6
$ 48.8	$1,894.4	$ 1,730.5	$ 1,566.6	$ 1,402.7	$ 1,238.8	$ 1,074.9	$ 911.1
$ 46.7	$1,898.1	$ 1,734.2	$ 1,570.4	$ 1,406.5	$ 1,242.6	$ 1,078.7	$ 914.8
$ 44.6	$1,902.2	$ 1,738.3	$ 1,574.5	$ 1,410.6	$ 1,246.7	$ 1,082.8	$ 918.9
$ 42.4	$1,906.7	$ 1,742.9	$ 1,579.0	$ 1,415.1	$ 1,251.2	$ 1,087.3	$ 923.4
$ 40.3	$1,911.7	$ 1,747.8	$ 1,584.0	$ 1,420.1	$ 1,256.2	$ 1,092.3	$ 928.4
$ 38.2	$1,917.3	$ 1,753.4	$ 1,589.5	$ 1,425.6	$ 1,261.7	$ 1,097.8	$ 934.0
$ 36.1	$1,923.5	$ 1,759.6	$ 1,595.7	$ 1,431.8	$ 1,267.9	$ 1,104.0	$ 940.2
$ 34.0	$1,930.4	$ 1,766.6	$ 1,602.7	$ 1,438.8	$ 1,274.9	$ 1,111.0	$ 947.1

Implied Revenue per GW

CapEx per GW	ROIC 30.0%	25.0%	20.0%	15.0%	10.0%	5.0%	0.0%
$ 50.9	$ 18.6	$ 17.0	$ 15.4	$ 13.8	$ 12.1	$ 10.5	$ 8.9
$ 48.8	$ 17.9	$ 16.3	$ 14.8	$ 13.2	$ 11.7	$ 10.1	$ 8.6
$ 46.7	$ 17.1	$ 15.6	$ 14.2	$ 12.7	$ 11.2	$ 9.7	$ 8.2
$ 44.6	$ 16.4	$ 15.0	$ 13.5	$ 12.1	$ 10.7	$ 9.3	$ 7.9
$ 42.4	$ 15.6	$ 14.3	$ 12.9	$ 11.6	$ 10.3	$ 8.9	$ 7.6
$ 40.3	$ 14.9	$ 13.6	$ 12.3	$ 11.1	$ 9.8	$ 8.5	$ 7.2
$ 38.2	$ 14.1	$ 12.9	$ 11.7	$ 10.5	$ 9.3	$ 8.1	$ 6.9
$ 36.1	$ 13.4	$ 12.3	$ 11.1	$ 10.0	$ 8.8	$ 7.7	$ 6.5
$ 34.0	$ 12.7	$ 11.6	$ 10.5	$ 9.4	$ 8.4	$ 7.3	$ 6.2

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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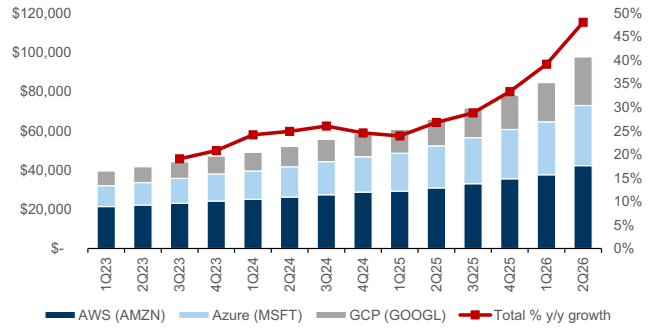
Using Cloud Backlogs to Contextualize Forward Monetization Potential

To help contextualize the output of the analysis above, we look at the three major US-based public cloud companies (AWS [AMZN], Azure [MSFT] and Google Cloud [GOOGL]) as a read on current demand backlogs and the infrastructure buildout that these companies are undergoing in response. Growing enterprise demand for both AI training and inference workloads is driving a sizable uptick in reported revenues and backlog commitments for all three CSPs — as of C2Q26, the three companies reported a combined backlog of ~$1.69trn (+152% YoY and ~1.5x since the start of the year), with management citing capacity constraints limiting the ability to serve strong AI-related demand and being a key reason for the increase in capex investments.

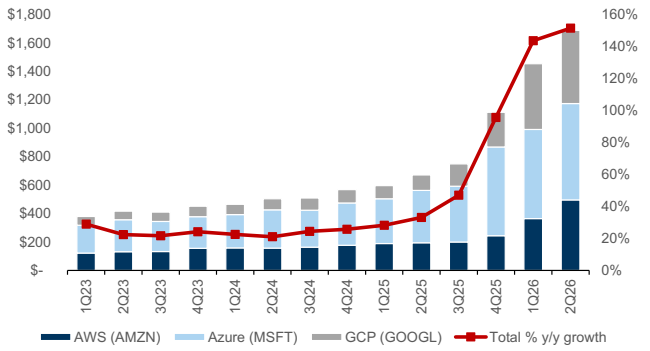
Exhibit 9: Growing enterprise demand for AI workloads (training and inference) is driving accelerating cloud revenue growth...
Public Cloud Revenues ($bn)



Azure (MSFT) reflects GS estimates for all periods

Source: Company data, Goldman Sachs Global Investment Research

Exhibit 10: ...and scaling revenue backlogs for the major US cloud hyperscalers
Public Cloud Reported Revenue Backlogs ($bn)



Backlog figures include non-cloud revenue commitments ("Total Commitments for AMZN; "Commercial RPOs" for MSFT; "Remaining Performance Obligations (RPO)" for GOOGL) and are used as a proxy for future cloud demand

Source: Company data, Goldman Sachs Global Investment Research

Using the same framework of a 15% ROIC hurdle rate, the combined CY2026-27 capex for these three companies of ~$1.22trn would need to generate a cumulative ~$1.00trn of revenues in CY2028-30 (see Exhibit 12, Exhibit 13 and Exhibit 14 below for details). **This required 3-year revenue total represents ~59% of the total current reported backlog of ~$1.69trn as of C2Q26** (compared to company disclosures of an expectation to realize ~1/2 of the reported backlog over the next 24 months and ~1/2 thereafter). While some debate can be made about how the current backlog will be converted into revenues going forward (customer concentration risk; product/revenue mix; timing of revenue realization given longer-term contracts; etc.), this assumes no further growth of backlog commitments going forward (a likely conservative assumption given the steady DD%+ sequential backlog growth in recent periods).

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Exhibit 11: The implied 3-year revenues required of $1.00trn represents ~59% of the total current backlog of ~$1.69trn reported by the three US-based CSPs (AMZN, MSFT and GOOGL)

US-Based Cloud ROIC Framework (AMZN, MSFT and GOOGL) — Benchmarked to Current Cloud Backlogs

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (1,221,705)				*[AA]*
Revenue		**$ 329,351**	**$ 335,316**	**$ 336,807**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (14,439)	$ (19,252)	$ (20,456)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (195,473)	$ (195,473)	$ (195,473)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (3,454)	$ (4,606)	$ (4,894)	*[F] = [O] * Other cost per GW*
EBIT		**$ 115,985**	**$ 115,985**	**$ 115,985**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 91,628**	**$ 91,628**	**$ 91,628**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***29GW***				*[O]*
Revenue	**$ 1,001,474**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 347,954**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 274,884**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Relative to CSP Backlog	
Reported Backlog (CQ2'26):	
Total	**$1,687,900**
GOOGL	$496,000
AMZN	$513,900
MSFT	$678,000

Revenue Required (CY2028-30)		*% of Backlog*
Total	**$ 1,001,474**	***59.3%***
GOOGL	$ 385,345	*77.7%*
AMZN	$ 347,817	*67.7%*
MSFT	$ 268,312	*39.6%*

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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How Have the Companies Framed ROIC?

Capacity constraints and accelerating demand driving short payback periods on current datacenter capex.

- On its 2Q26 earnings call, **AMZN** outlined how it has a clear line of sight into current period AWS/AI-related capex generating strong returns in the future: capex is bucketed into servers and networking equipment (a ~5-6 year useful life v. breakeven point of ~3 years, implying significant cash flow generation for 2-3 years post breakeven) and datacenter shells (30+ year useful life, implying the ability to support 5-6 cycles of server economics). Currently, capex spend begins ~2 years before a datacenter becomes operational (masking current period results against what is otherwise positive/attractive ROIC on AI-related investments).
- On its F4Q26 earnings call, **ORCL** disclosed that it sees steady-state ROIC in the high 20s % for larger projects within its Infrastructure business (with potential upside from potential elongated GPU replacement cycles and/or initiatives such as "Bring-Your-Own-Hardware" that lower ORCL's upfront capex spend).
- At the GS Communacopia + Technology conference, **SPCX** disclosed that it is currently deploying AI segment capex (on terrestrial datacenter capacity) against a one-year payback period.

Datacenter infrastructure is being built with flexibility/fungibility in mind (reducing exposure to one single technology framework or utility).

- **MSFT** has previously framed its infrastructure investments as going toward building a "fungible fleet", including flexibility in terms of geography and hardware type and able to serve different types of workloads/utilities across the AI lifecycle.
- **META** has discussed how it builds out its datacenter capacity through a "staged' approach, leveraging modular designs, timing of server orders ("as needed" / close to deployment) and leasing of additional 3P capacity (to fill gaps as 1P compute is deployed.
- Similarly, multiple companies have discussed innovation around datacenter architecture and design – for example, **AMZN**'s Modular Design enables it to easily retrofit existing infrastructure with new hardware in the future.
- **GOOGL** has outlined its ability to dynamically shift capacity between internal (Search, YouTube, Google DeepMind) and external (Google Cloud) use cases and direct workloads across geos and server types to optimize for high utilization rates.

The outlook for future monetization potential (across multiple avenues) of compute capacity remains optimistic.

- The major public CSPs (**GOOGL**, **AMZN**, **MSFT** and **ORCL**) have raised pricing on various types of workloads and services, with the potential for future price increases (to better align with supply/demand imbalances) as contracts are renewed.
- **MSFT** underlined that unit economics are healthier than the same stage of the original cloud cycle, supporting a greater profit pool as any given cohort of capex

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matures. One key learning from the cloud era is having one unified tech stack across Azure and 1P apps (vs. different tech stacks that require a finer grained matching approach with ultimately lower utilization). In addition, MSFT has been able to capture AI-native customers from Y0, vs. being a late entrant in the cloud cycle. On semis, MSFT believes the chip layer will become more diverse, as was the case with CPUs. On token rents, MSFT believes that it will deliver enough value on top of 3P tokens, as well as orchestrate between 1P and 3P tokens, such that the margin impact will be minimal over time. Taken together, Microsoft believes there is no structural reason that gross margin for AI margins can't approach cloud margins (see recent NDR note for more details).

- Multiple ways to monetize enterprise compute capacity, from "bare-metal" Infrastructure-as-a-Service (e.g. **SPCX**'s recently announced compute licensing deals) to full-scale enterprise software services.
- The continued evolution of consumer-facing monetization opportunities, with advertising (**META**, **GOOGL**, **AMZN**) furthest along and potential for other avenues (subscriptions, agentic commerce, etc.) to develop in the future.

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Valuation/Risks

AMZN (Buy): Our $375, 12-month price target is based on a sum-of-the-parts methodology: a) 16x EV/GAAP EBIT multiple applied to our North America segment NTM + 1 estimates; b) a 1.25x EV/Sales multiple applied to our International segment NTM + 1 estimates; and c) a 29.0x EV/GAAP EBIT multiple applied to our AWS segment NTM + 1 estimates. Key risks include: (-) Any impact to eCommerce or Cloud growth from competition; lack of success in scaling high margin businesses including Advertising, Cloud, third-party selling and the subscription business; investments across an array of initiatives creating a headwind to gross or operating margin; any product or platform changes necessary to comply with changes to the global regulatory environment; exposure to volatility caused by the global macroeconomic environment; and investor risk appetite for growth stocks.

GOOGL (Buy): Our $435, 12-month price target is based on an equal blend of (1) 26.0x EV/GAAP EBIT applied to our NTM + 1 year estimates and (2) a modified DCF using 50.0x EV/FCF-SBC multiple applied to our NTM + 4 years estimates discounted back 3 years. Risks to our Buy rating include: a) competition of product utility levels and advertising dollars; b) headwinds to monetizable (product) search from industry disruption; c) shifting media consumption habits; d) heavy investments depress operating margins for longer than our forecasts; e) no/low levels of incremental shareholder returns going forward; and f) regulatory scrutiny and industry practices altering the business model's prospects. In addition, Alphabet is exposed to volatility caused by the global macroeconomic environment and investor risk appetite for growth stocks.

META (Buy): Our $725, 12-month price target is based on an equal blend of (1) 26.0x EV/GAAP EBIT applied to our NTM + 1 year estimates and (2) a modified DCF using 45.0x EV/FCF-SBC multiple applied to our NTM + 4 years estimates discounted back 3 years. Risks to our Buy rating include: a) competition for user growth, user engagement and advertising dollars across an array of incumbent and emerging Internet, media and commerce companies; b) large investments in long-tailed initiatives depress operating margins for longer than our forecasts; c) no/low levels of incremental shareholder returns going forward; d) regulatory scrutiny and industry practices altering the business model's prospects; e) potential antitrust scrutiny could prove to be a headwind to M&A aspiration (to add talent and product innovation inorganically) and/or result in a break-up or dis-synergies of prior period M&A activity; and f) inability to monetize upside optionality opportunities (messaging layer, social commerce/shopping, Oculus/Metaverse). In addition, Meta is exposed to volatility caused by the global macroeconomic environment and investor risk appetite for growth stocks.

MSFT (Buy): Our $640, 12-month price target is based on a 28x P/E multiple to Microsoft's SNTM adjusted net income. Key downside risks include: longer ramp for internal silicon, which can limit market share gains or gross margin expansion; greater investments in projects outside of expectations (e.g., non-Azure); key leadership changes; and more meaningful shift to custom software that could negatively impact its applications business.

ORCL (Buy): Our $240 12-month price target is based on 15x Oracle's 2030E adjusted net income, discounted back to SNTM (Q5-Q8). Key risks include: customer concentration risk; timing and execution of the data center build-outs; intense capex

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investment cycle; and accelerating share losses in the database/SaaS market.

SPCX (Buy): Our $220, 12-month price target is based on a sum-of-the-parts valuation framework: (1) Space: 9.5x EV/Sales, which includes applied multiples on 2029 segment estimates (Space: 9.5x EV/Sales; Connectivity: 24.0x EV/GAAP EBIT; AI: 28.0x EV/GAAP EBIT), discounted back 1.5 years at 12%. The discount rate represents CAPM using the blended average of companies within our coverage universe consisting of: (1) 3% risk free rate (based on the normalized 10-year rate); (2) average beta of ~1.3; (3) equity risk premium of 7%. Key risks to our Buy rating across the Overall, Space, Connectivity and AI businesses include: **Overall**: a) Governance risks (majority voting power and significant execution risk concentrated in Founder and CEO); b) Existing related-party transactions across various companies and entities associated with Founder and CEO. (e.g. co-development of Terafab and Macrohard with Tesla; asset purchases of Tesla products by SPCX; etc.); c) Forecasts for high capital intensity and cash burn, requiring sizable future fund raises (assumed primarily through debt); and d) Potential for future equity dilution from stock grants/other forms of compensation (including sizable management stock grants based on various performance targets) and/or potential equity fund raises. **Space**: a) Competition from other commercial launch companies; b) Higher than expected allocation of launches to internal use cases (i.e. connectivity and AI); c) Reliance on government contracts for revenues; d) Any delays or difficulties in maintaining/renewing required regulatory approvals and licenses for space-related activities (incl. FAA launch and re-entry licenses); and e) Lower than expected profitability (given the fixed-price nature of contracts). **Connectivity**: a) Competition from other broadband internet and mobile service providers; b) Reliance on significant growth of internal launch capacity (to support Starlink satellite deployment) through Starship, which has yet to prove out full reusability/rapid launch schedules; c) Ability to scale enterprise and government Starlink contracts; d) Reliance on third-party partners for go-to-market/distribution and spectrum; and e) Any delays or difficulties in acquiring regulatory approvals and licenses for satellites. **AI**: a) A reliance on developing, scaling and maintaining orbital (satellite-based) datacenter compute, an unproven technology with a significant degree of execution risk; b) Competition from other frontier AI models related to both model performance and consumer/ enterprise demand for model access; c) Ability to scale consumer AI revenues (both X advertising and X/Grok paid subscriptions); d) A reliance on significant growth of internal launch capacity (to support orbital compute deployment) through Starship, which has yet to prove out full reusability/rapid launch schedules; and e) Supply chain risks and reliance on third-party partners for key inputs (particularly third-party chips, e.g. NVDA GPUs). In addition, the company is exposed to broader macroeconomic conditions that could adversely impact the business.

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Appendix: Revenue and EBIT Analyses by Company

Exhibit 12: US-Based Hyperscaler ROIC Framework: Alphabet (GOOGL)
$mm

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (470,085)				*[AA]*
Revenue		**$ 126,727**	**$ 129,022**	**$ 129,596**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (5,556)	$ (7,408)	$ (7,871)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (75,214)	$ (75,214)	$ (75,214)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (1,329)	$ (1,772)	$ (1,883)	*[F] = [O] * Other cost per GW*
EBIT		**$ 44,628**	**$ 44,628**	**$ 44,628**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 35,256**	**$ 35,256**	**$ 35,256**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***11GW***				*[O]*
Revenue	**$ 385,345**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 133,885**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 105,769**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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Exhibit 13: US-Based Hyperscaler ROIC Framework: Microsoft (MSFT)

$mm

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (327,316)				*[AA]*
Revenue		**$ 88,239**	**$ 89,837**	**$ 90,236**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (3,869)	$ (5,158)	$ (5,480)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (52,371)	$ (52,371)	$ (52,371)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (925)	$ (1,234)	$ (1,311)	*[F] = [O] * Other cost per GW*
EBIT		**$ 31,074**	**$ 31,074**	**$ 31,074**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 24,549**	**$ 24,549**	**$ 24,549**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***8GW***				*[O]*
Revenue	**$ 268,312**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 93,223**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 73,646**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

Exhibit 14: US-Based Hyperscaler ROIC Framework: Amazon (AMZN)

$mmn

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (424,304)				*[AA]*
Revenue		**$ 114,385**	**$ 116,457**	**$ 116,975**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (5,015)	$ (6,686)	$ (7,104)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (67,889)	$ (67,889)	$ (67,889)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (1,200)	$ (1,600)	$ (1,700)	*[F] = [O] * Other cost per GW*
EBIT		**$ 40,282**	**$ 40,282**	**$ 40,282**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 31,823**	**$ 31,823**	**$ 31,823**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***10GW***				*[O]*
Revenue	**$ 347,817**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 120,846**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 95,468**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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Exhibit 15: US-Based Hyperscaler ROIC Framework: Meta Platforms (META)

$mm

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (308,677)				*[AA]*
Revenue		**$ 83,214**	**$ 84,721**	**$ 85,098**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (3,648)	$ (4,864)	$ (5,168)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (49,388)	$ (49,388)	$ (49,388)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (873)	$ (1,164)	$ (1,236)	*[F] = [O] * Other cost per GW*
EBIT		**$ 29,305**	**$ 29,305**	**$ 29,305**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 23,151**	**$ 23,151**	**$ 23,151**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***7GW***				*[O]*
Revenue	**$ 253,033**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 87,914**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 69,452**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

Exhibit 16: US-Based Hyperscaler ROIC Framework: Oracle (ORCL)

$mm

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (165,255)				*[AA]*
Revenue		**$ 44,550**	**$ 45,357**	**$ 45,558**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (1,953)	$ (2,604)	$ (2,767)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (26,441)	$ (26,441)	$ (26,441)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (467)	$ (623)	$ (662)	*[F] = [O] * Other cost per GW*
EBIT		**$ 15,689**	**$ 15,689**	**$ 15,689**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 12,394**	**$ 12,394**	**$ 12,394**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***4GW***				*[O]*
Revenue	**$ 135,465**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 47,066**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 37,182**				
Margin	*27.4%*				
per GW	*$ 3.18*				

The compute/shell split is for illustrative purposes across cloud providers (given Oracle primarily leases data center capacity)

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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Exhibit 17: US-Based Hyperscaler ROIC Framework: SpaceX (SPCX)
$mm

US Hyperscaler ROIC Framework	2026-2027	2028	2029	2030	Equation
At 15% ROIC Threshold					
Upfront CapEx (Growth)	$ (30,635)				*[AA]*
Revenue		**$ 8,259**	**$ 8,408**	**$ 8,446**	*[A] = [G] - [F] - [E] - [D]*
Utilization %		*60%*	*80%*	*85%*	*[B]*
per GW 100% Utilization rate		*$ 11.44*	*$ 11.65*	*$ 11.70*	*[C] = ([A] * 1000 / Average([B0], [B1])*
OpEx (Excl. D&A)		$ (362)	$ (483)	$ (513)	*[D] = ([B] * [O]) * Opex per GW*
D&A		$ (4,902)	$ (4,902)	$ (4,902)	*[E] = (([AA] * [L]) / [K]) + (([AA] * [N]) / [M])*
Other Costs		$ (87)	$ (115)	$ (123)	*[F] = [O] * Other cost per GW*
EBIT		**$ 2,908**	**$ 2,908**	**$ 2,908**	*[G] = [I] / (1 - [H])*
% Margin		*35.2%*	*34.6%*	*34.4%*	
Tax Rate		*21%*	*21%*	*21%*	*[H]*
NOPAT		**$ 2,298**	**$ 2,298**	**$ 2,298**	*[I] = [J] * (- [AA] / 2)*
% Margin		*27.8%*	*27.3%*	*27.2%*	
Target ROIC		*15%*	*15%*	*15%*	*[J]*
"Compute"	5yrs	*70%*			*[K], [L]*
"Shell"	15yrs	*30%*			*[M], [N]*
Implied GWs Added	***1GW***				*[O]*
Revenue	**$ 25,113**				*[P]*
per GW	*$ 11.60*				*[Q] = [P] / [O] / 1000 / 3*
EBIT	**$ 8,725**				
Margin	*34.7%*				
per GW	*$ 4.03*				
NOPAT	**$ 6,893**				
Margin	*27.4%*				
per GW	*$ 3.18*				

Source: Epoch AI, Company data, Goldman Sachs Global Investment Research

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Disclosure Appendix

Reg AC

We, Eric Sheridan, Gabriela Borges, CFA, James Schneider, Ph.D., Alex Vegliante, CFA, Julia Fein-Ashley, Emma Huang, Callie Valenti, Maura Hager, Selina Zhang and Anmol Makkar, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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Contributing Authors: Eric Sheridan Goldman Sachs & Co. LLC, Gabriela Borges, CFA Goldman Sachs & Co. LLC, James Schneider, Ph.D. Goldman Sachs & Co. LLC, Alex Vegliante, CFA Goldman Sachs & Co. LLC, Julia Fein-Ashley Goldman Sachs & Co. LLC, Emma Huang Goldman Sachs & Co. LLC, Callie Valenti Goldman Sachs & Co. LLC, Maura Hager Goldman Sachs & Co. LLC, Selina Zhang Goldman Sachs & Co. LLC, Anmol Makkar Goldman Sachs & Co. LLC.

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Price target and rating history chart(s)

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Target price history table(s)

Oracle Corp. (ORCL)

Date of report	Target price ($)	Closing price ($)
14-Sep-26	240.00	144.79
11-Jun-26	239.00	184.10
11-Mar-26	228.00	163.12
11-Jan-26	240.00	198.52
11-Dec-25	220.00	198.85
17-Oct-25	320.00	291.31
12-Sep-25	310.00	292.18
12-Jun-25	195.00	199.86
24-Apr-25	145.00	137.51
11-Mar-25	165.00	144.18
10-Dec-24	185.00	177.74
10-Sep-24	153.00	155.89
12-Jun-24	137.00	140.38
12-Mar-24	130.00	127.54
12-Dec-23	115.00	100.81

Microsoft Corp. (MSFT)

Date of report	Target price ($)	Closing price ($)
30-Jul-26	640.00	451.10
30-Apr-26	610.00	407.78
29-Jan-26	600.00	433.50
11-Jan-26	655.00	479.28
31-Jul-25	630.00	533.50
20-May-25	550.00	458.17
01-May-25	480.00	425.40
24-Apr-25	450.00	387.30
10-Oct-24	500.00	415.84
26-Apr-24	515.00	406.32
25-Oct-23	450.00	340.67

Amazon.com Inc. (AMZN)

Date of report	Target price ($)	Closing price ($)
31-Jul-26	375.00	271.58
08-Jul-26	335.00	243.62
30-Apr-26	325.00	265.06
13-Apr-26	275.00	239.89
06-Feb-26	280.00	210.32
13-Jan-26	300.00	242.60
31-Oct-25	290.00	244.22
03-Oct-25	275.00	219.51
01-Aug-25	240.00	214.75
21-Apr-25	220.00	167.32
07-Feb-25	255.00	229.15
01-Nov-24	240.00	197.93
02-Aug-24	230.00	167.90
15-Jul-24	250.00	192.72
01-May-24	225.00	179.00
02-Feb-24	220.00	171.81
10-Jan-24	200.00	153.73
27-Oct-23	190.00	127.74
12-Oct-23	175.00	132.33

Space Exploration Technologies Corp. (SPCX)

Date of report	Target price ($)	Closing price ($)
05-Aug-26	220.00	108.27
07-Jul-26	205.00	149.47

Alphabet Inc. (GOOGL)

Date of report	Target price ($)	Closing price ($)
23-Jul-26	435.00	317.69
08-Jul-26	440.00	361.92
30-Apr-26	450.00	384.80
05-Feb-26	400.00	331.25
12-Jan-26	375.00	331.86

Meta Platforms Inc. (META)

Date of report	Target price ($)	Closing price ($)
30-Jul-26	725.00	539.03
08-Jul-26	815.00	603.12
30-Apr-26	830.00	611.91
13-Apr-26	840.00	634.53
29-Jan-26	835.00	738.31

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Alphabet Inc. (GOOGL)

Date of report	Target price ($)	Closing price ($)
30-Oct-25	330.00	281.48
14-Oct-25	288.00	245.45
24-Jul-25	234.00	192.17
10-Jul-25	225.00	177.62
25-Apr-25	220.00	161.96
11-Apr-25	205.00	157.14
05-Feb-25	220.00	191.33
13-Jan-25	215.00	191.01
30-Oct-24	210.00	174.46
14-Oct-24	208.00	164.96
24-Jul-24	217.00	172.63
08-Jul-24	211.00	189.03
26-Apr-24	195.00	171.95
15-Apr-24	185.00	154.86
31-Jan-24	171.00	140.10
10-Jan-24	164.00	142.28
04-Oct-23	154.00	135.24

Meta Platforms Inc. (META)

Date of report	Target price ($)	Closing price ($)
30-Oct-25	815.00	666.47
14-Oct-25	870.00	708.65
31-Jul-25	830.00	773.44
10-Jul-25	775.00	727.24
01-May-25	690.00	572.21
11-Apr-25	685.00	543.57
30-Jan-25	765.00	687.00
13-Jan-25	688.00	608.33
31-Oct-24	630.00	567.58
14-Oct-24	636.00	590.42
01-Aug-24	555.00	497.74
08-Jul-24	522.00	529.32
25-Apr-24	500.00	441.38
15-Apr-24	555.00	500.23
02-Feb-24	500.00	474.99
10-Jan-24	414.00	370.47

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