RESEARCI

UPDATE

June 14, 2024 01:56 AM GMT

Adobe Systems | North America

2Q24 Results – Taking on the Bears, and Emboldening the Bulls

Reaction to earnings

Strengthens our investment thesis
Impact to our investment thesis
Financial results versus consensus
Impact to next 12-month consensus EPS

Source: Company data, Morgan Stanley Research

A solid beat and raise, with a notable 11% beat in Digital Media NNARR, fights back against increasingly negative investor sentiment and rising competitive concerns. The rubber hits the road in 2H, as ADBE targets a return to growth in Creative Cloud NNARR, which should further catalyze shares. OW.

Key Takeaways

- Q2 results beat consensus across all metrics, and the magnitude of the Digital
 Media Net New ARR beat increased markedly from to 5% in Q1 to 11% in Q2.
- The initial guide for Q3 Digital Media Net New ARR at \$460 million came in well ahead of consensus at \$438 million...
- ... and the stronger Q3 guide now suggests a 2H ramp necessary to hit the increased FY24 target of \$1.95 billion in DM NNARR inline with historical seasonality.
- Adobe brought up full year targets across Digital Media, Digital Experience and EPS, and now look for non-GAAP EPS of \$18.00-18.20 growing ~13% YoY.
- Shares trading at ~25X CY25 non-GAAP EPS after hours (after printing 15% EPS growth) presents an attractive risk/reward, in our view.

Taking Back the Narrative with Solid Fundamentals. Adobe again beat consensus revenue expectations across every line item, saw an 11% beat in the ever important Digital Media Net New Annual Recurring Revenue (NNARR) metric (up from 5% last quarter), up-sided on operating margins (46.0% versus consensus at 45.5%), grew EPS 15% YoY to \$4.48 (\$0.10 ahead of consensus) and raised the full year guidance across Digital Media NNARR, Digital Experience revenues and EPS. Against a backdrop of weak software prints generally in CYQ1 and rising competitive concerns around Adobe specifically, a solid set of fundamentals should put wind back in ADBE's sails. Even further than that, Adobe management is laying the groundwork to take on the bear case concerns head-on and further embolden the bulls.

Taking on the Bear Cases:

• Increasing Competitive Pressure from Canva in the Enterprise: Coming out

MORGAN STANLEY & CO. LLC

Keith Weiss, CFA

Equity Analyst

Keith.Weiss@morganstanley.com +1 212 761-4149

Elizabeth Porter, CFA

Equity Analyst

Elizabeth.E.Porter@morganstanley.com +1 212 761-3632

Chris Quintero

Equity Analyst

Chris.Quintero@morganstanley.com +1 212 761-1686

Adobe Systems (ADBE.O, ADBE US)

Software | United States of America

Stock Rating	Overweight
Industry View	Attractive
Price target	\$660.00
Shr price, close (Jun 13, 2024)	\$458.74
Mkt cap, curr (mm)	\$206,892
52-Week Range	\$638.25-433.97

Fiscal Year Ending	12/23	12/24e	12/25e	12/26e
EPS (\$)**	16.06	18.20	20.66	24.17
Prior EPS (\$)**	-	18.02	20.05	22.92
P/E	46.3	31.1	29.8	25.6
EPS (\$)§	15.94	18.02	20.35	23.32
Div yld (%)	0.0	0.0	0.0	0.0

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

- ** = Based on consensus methodology
- § = Consensus data is provided by Refinitiv Estimates
- e = Morgan Stanley Research estimates

QUARTERLY	EPS (\$)				
Quarter	2023	2024e Prior	2024e Current	2025e Prior	2025e Current
Q1	3.80	-	4.49a	5.05	5.22
Q2	3.91	-	4.49a	4.86	5.09
Q3	4.09	4.49	4.52	4.99	5.11
Q4	4.27	4.65	4.71	5.15	5.23

e = Morgan Stanley Research estimates, a = Actual Company reported data

Morgan Stanley does and seeks to do business with companies covered in Morgan Stanley Research. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of Morgan Stanley Research. Investors should consider Morgan Stanley Research as only a single factor in making their investment decision.

For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

of the recent Canva Create conference, investor concerns mounted on Canva's entry in the enterprise market (see our note, "'Canva Create' Read Through, 05/28/24") and the potential for rising competitive pressure on Adobe's Creative Cloud business. On the Q2 conference call, Adobe management spoke to strong initial traction in their recently launched Express for Business solutions, which targets the same business user Canva looks to court.

- Increasing Competition in the Consumer Segment: Management spoke to a
 strong start of the new Express application on iOS and Android released in
 the quarter, doubling the monthly active users count in the mobile offering
 quarter over quarter. On the Document Cloud side of the equation, free
 monthly active users (MAU) of Acrobat Web grew over 60% year over year.
- Increasing Competitive Pressure from Diffusion Engines: During the
 quarter Adobe released the Firefly Image 3 Foundational Model and talked
 to good customer reception to their updated diffusion model. Management
 stated May was the strongest quarter yet of image generation, bringing the
 total to 9 billion images generated. Equally important, the company spoke to
 good early monetization of AI, in free-to-paid conversion, upgrades to higher
 level SKUs, expanding ETLAs and better retention. Additionally, Adobe
 announcing integrations to popular diffusion engines outside of Firefly,
 further reinforces the idea Creative Cloud is a complementary functionality
 to raw image creation.

Emboldening the Bulls:

- Leveraging Large Customer Base: As Adobe utilizes GenAI innovations to
 drive new solutions, they are able to leverage large installed customer bases.
 A great example is the recently launched AI Assistant for Document Cloud,
 which helps users query data from the approximately 3 trillion PDFs in the
 world.
- Owning the Data: A primary vector of differentiation versus stand-alone diffusion models or marketing point solutions is the deep data sets Adobe manages for their customers, specifically customer data help in the Adobe Experience Platform (AEP) and the content libraries contained in Adobe Experience Manager Assets (AEM). This data enables Adobe to offer image generations through Custom Services, Firefly Services and AEM variant generation which align to the customers current brand controls. Adobe spoke to AEP and native applications subscription revenue growing 60% YoY in Q2, putting the solution on target to be the next >\$1 billion product within Digital Experience.
- Pulling Together Content Creation and Content Activation. Adobe now has
 multiple solutions pulling together the workflows across content creation
 (Digital Media) and content activation (Digital Experience), including Express
 for Business and GenStudio. This expanse of workflow is another strong
 differentiator for Adobe and one that we believe becomes even stronger as
 GenAI solutions continue to evolve.

The next step for Adobe is to show the innovations and competitive strengths listed above bending the growth curve for Creative Cloud NNARR (which is expected to return to growth in 2H) and Digital Experience (where guidance implies growth deceleration). Adobe breaking out of the 9-11% growth band seen over the past 6 quarters and trending back towards mid-teens growth could be the next big catalyst for the shares. Bottom-line, Adobe remains a great software franchise, with a compelling innovation cycle ahead, which can even better monetize their large installed base and expand their opportunity further. Investors now have an opportunity to get onboard with the stock at the bottom end of historical PEG range. Remain Overweight.

What We Liked:

- Beats Across Q2 Topline Metrics, Solid FY24 Raise... Adobe reported Digital Media net new ARR (NNARR) of \$487 million, beating guidance of \$440 million by 11% and well above the 5% beat in the prior quarter. Upside was supported by Document Cloud NN ARR which grew 42% YoY, while Creative Cloud NN ARR declined 9% YoY as year-ago price increases continue to be a headwind. Management expects Creative Cloud NN ARR to inflect to YoY growth in Q3 and Q4, as pricing headwinds fade and the ramp of new products provides a tailwind to growth. This supports management's guidance for Digital Media NN ARR of \$460 million in Q3 (ahead of the Street) and a raise to the full year at \$1.95 billion, up from \$1.9 billion prior. FY24 revenue was also raised at the mid-point of the range of \$21.4-\$21.5 billion (from \$21.3-\$21.5 billion provided on the 4Q23 call). Strong revenue flowed through to better profitability with Q2 operating margin of 46.0% beating Street's 45.5% estimate and EPS of \$4.48 beating Street at \$4.38. Full year EPS was similarly raised at the mid-point to \$18.10 from \$17.80 prior.
- Innovation Engine Alive and Well. Adobe announced new features and integrations providing a tailwind to Digital Media Net New ARR growth.
 Acrobat AI Assistant was launched in April and is off to a strong start. An allnew Express for Mobile was introduced in the quarter which, along with Express for Web, is benefiting new user acquisition at Adobe. Enterprises are expanding engagement and upgrading to higher tier products for access to new products like Express for Business and more advanced Firefly capabilities. More broadly, management highlighted that generations on Firefly hit a new monthly record in May. Success in 1) new user acquisition and retention, 2) faster pace of upgrades and 3) adoption of new offerings like Firefly Services underpins management's confidence to raise full year Digital Media NN ARR amid a background of choppy results from the broader software ecosystem.
- No Macro Slowdown Here. Following multiple weeks of software prints
 pointing to a slower macro, it was surprising to hear Adobe speak to
 durability in the demand environment. Enterprise demand continues to
 perform well, similar to Q1, while SMB and direct traffic to Adobe.com
 supported upside to results. Management spoke to diversity in the missioncritical product portfolio coupled with strong execution and converting a
 pipeline of AI interest into monetization as drivers of the strong demand.

What We're Watching:

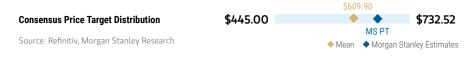
- Steepening Decline in Creative Cloud NN ARR in Q2 + Ramp in 2H. Creative Cloud net new ARR (NN ARR) declined 9% YoY in Q2, an acceleration from -6% in Q1 despite a 2 point easier compare. Pricing continues to be a headwind, where management quantified last quarter that NN ARR was up >20% YoY in Q1 excluding price, but fell short of quantifying in Q2. However, pricing should turn to a modest tailwind in 2H which, along with ramping monetization of new features, supports CC NN ARR turning to positive reported growth YoY.
- Guidance Implies Decelerating DX Subscription Revenues. Digital
 Experience subscription revenue accelerated to 13% YoY, from 12% in Q1.
 Looking ahead, Q3 guidance implies growth slows to 10% and full year guidance suggest Q4 growth slows to 9% YoY. We expect management is likely setting a comfortable bar given comments on strong retention rates and early strength for new products including AEP AI Assistant and GenStudio.
- Still Not Enforcing Generation Limits. Generation limits are not yet
 enforced in flagship apps for paid users, generations are only enforced for
 free to paid users and volume bands in ETLAs. Bears look to the lack of
 enforcement on generation limits as a sign that adoption may be less than
 expected and the need to drive free usage longer to support adoption. We
 side with bulls who highlight May being the highest month for Firefly
 generation and upcoming tailwinds to growth as limits are enforced.

Risk Reward – Adobe Inc. (ADBE.O)

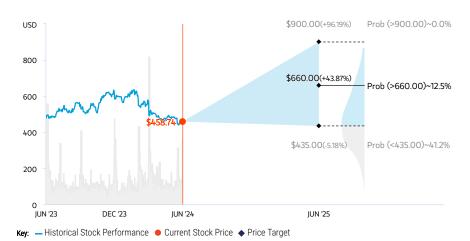
Generative AI Accelerates Growth in Creative Cloud

PRICE TARGET \$660.00

Our \$660 PT is based on a 33x Base Case 2025e EPS of \$20.05 as Generative AI accelerates Creative Cloud growth. The 33x EPS multiple in FY25e implies a \sim 2.6x PEG, slightly above ADBE's historical average.



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)

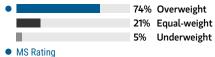


Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 13 Jun 2024. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology here

OVERWEIGHT THESIS

- Generative AI capabilities accelerate Creative Cloud growth as Adobe is able to realize incremental revenue from five distinct opportunities. Adobe is well positioned to integrate Generative AI functionality into existing workflows of a broad base of subscribers, enabling stickier customer engagement and opportunity to monetize incremental productivity provided to users.
- The incremental GenAI revenue accelerates EPS growth back to mid/highteens growth, which we believe warrants a premium multiple.
- \$660 PT is based on 32x FY25e EPS of \$20.66, which implies ~2.3x PEG on ~14% FY23-26 EPS Growth.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

New Data Era: Positive
Secular Growth: Positive
Technology Diffusion: Positive

View descriptions of Risk Rewards Themes here

BULL CASE \$900.00 BASE CASE \$660.00 BEAR CASE \$435.00

40x Bull Case 2025e EPS of \$22.48

Creative Cloud + GenAI expands the user base and pushes pricing higher, delivering Digital Media revenue CAGR of 17% from FY23-FY26, and improved integration and execution in Digital Experience delivers 14% revenue CAGR from FY23-FY26, resulting in total revenue CAGR of 16%. Operating margin of ~46% results in FY25 EPS of \$22.48. ADBE trades at 40x EPS, a premium to other large-cap peers and justified by a strong ~19% EPS CAGR, yielding \$900/share.

32x Base Case 2025e EPS of \$20.66

Digital Media delivers ~12% revenue CAGR from FY23-FY26 as Generative AI accelerates growth while Digital Experience delivers ~11% revenue CAGR from FY23-FY26. Total revenue grows at ~11% CAGR from FY23-FY26. Operating margin of ~46% results in FY25 EPS of \$20.66 and a FY23-FY26 EPS CAGR of ~14%. At a ~32x EPS multiple in FY25e, yielding \$660/share, ADBE trades at ~2.3x PEG, at a premium to historical average.

22x Bear Case 2025e EPS of \$19.81

Generative AI adds little upside to the existing user or revenue base as competition is fierce. Digital Experience lags as ADBE struggles to differentiate in a competitive market. A worsening macro environment negatively impacts a growing base of cyclically sensitive consumers. Margins come down to ~46% in FY25, resulting in FY25e EPS of \$19.81. The stock trades at 22x FY25e EPS, which yields \$435/share.

Risk Reward – Adobe Inc. (ADBE.O)

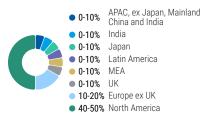
KEY EARNINGS INPUTS

Drivers	2023	2024e	2025e	2026e
Net New Digital Media ARR YoY (%)	14.4	12.7	12.2	12.0
EPS YoY (%)	17.1	13.3	13.5	17.0
Digital Experience Revenue YoY (%)	10.0	9.0	10.8	13.2
Total Revenue YoY (%)	10.2	10.5	11.0	12.4
Operating Margin (%)	45.9	46.0	46.1	46.3

INVESTMENT DRIVERS

- Increased customer lifetime value and TAM expansion opportunity
- Growing the customer base through freemium offerings
- Secular data trends around first party data
- Operating leverage and share buybacks

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- GenAI pricing closer to peers
- Expand the addressable customer base
- Figma acquisition closes
- Added GenAl functionality to the Digital Experience product portfolio

RISKS TO DOWNSIDE

- Timing of releases / AI availability
- Pricing on Firefly / ETLA / Creative Cloud uplift
- Lower margins from GenAl
- Cannibalization of the subscriber base / increased competition

OWNERSHIP POSITIONING

Inst. Owners, % Active	58.3%	
HF Sector Long/Short Ratio	2.1x	
HF Sector Net Exposure	25.3%	

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research

Morgan Stanley | RESEARCH

Model Changes

Exhibit 1: Model Changes

	FY23	2/24	5/24	8/24E	11/24E	FY24E	FY25E	FY26E
New Total Rev.	\$19,409M	\$5,182M	\$5,309M	\$5,360M	\$5,598M	\$21,450M	\$23,814M	\$26,771M
YoY Change	10.2%	11.3%	10.2%	9.6%	10.9%	10.5%	11.0%	12.4%
Old Total Rev.	\$19,409M	\$5,182M	\$5,291M	\$5,380M	\$5,554M	\$21,407M	\$23,771M	\$26,739M
YoY Change	10.2%	11.3%	9.9%	10.0%	10.0%	10.3%	11.0%	12.5%
% Change	0.0%	0.0%	0.3%	-0.4%	0.8%	0.2%	0.2%	0.1%
New Creative ARR	\$12,367M	\$12,783M	\$13,105M	\$13,443M	\$13,891M	\$13,891M	\$15,456M	\$17,210M
Old Creative ARR	\$12,367M	\$12,783M	\$13,114M	\$13,432M	\$13,880M	\$13,880M	\$15,454M	\$17,207M
% Change	0.0%	0.0%	-0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
New Total ARR	\$15,172M	\$15,764M	\$16,251M	\$16,711M	\$17,282M	\$17,282M	\$19,394M	\$21,729M
Old Total ARR	\$15,172M	\$15,764M	\$16,204M	\$16,638M	\$17,246M	\$17,246M	\$19,366M	\$21,700M
% Change	0.0%	0.0%	0.3%	0.4%	0.2%	0.2%	0.1%	0.1%
New Op. Income	\$8,918M	\$2,467M	\$2,441M	\$2,436M	\$2,521M	\$9,865M	\$10,969M	\$12,405M
New Op. Margin	45.9%	47.6%	46.0%	45.4%	45.0%	46.0%	46.1%	46.3%
Old Op. Income	\$8,918M	\$2,467M	\$2,401M	\$2,459M	\$2,543M	\$9,869M	\$10,976M	\$12,414M
Old Op. Margin	45.9%	47.6%	45.4%	45.7%	45.8%	46.1%	46.2%	46.4%
% Change	0.0%	0.0%	1.7%	-0.9%	-0.9%	0.0%	-0.1%	-0.1%
New FCF	\$6,942M	\$1,137M	\$1,899M	\$2,249M	\$2,620M	\$7,905M	\$9,731M	\$11,132M
New FCF Margins	35.8%	21.9%	35.8%	42.0%	46.8%	36.9%	40.9%	41.6%
YoY Change	-6.1%	-28.6%	-5.9%	26.2%	69.0%	13.9%	23.1%	14.4%
Old FCF	\$6,942M	\$1,137M	\$1,805M	\$2,086M	\$2,519M	\$7,547M	\$9,216M	\$10,648M
Old FCF Margins	35.8%	21.9%	34.1%	38.8%	45.4%	35.3%	38.8%	39.8%
% Change	0.0%	0.0%	5.2%	7.8%	4.0%	4.7%	5.6%	4.5%
New EPS	\$16.06	\$4.49	\$4.49	\$4.52	\$4.71	\$18.20	\$20.66	\$24.17
YoY Change	17.1%	18.2%	14.8%	10.5%	10.4%	13.3%	13.5%	17.0%
Old EPS	\$16.06	\$4.49	\$4.40	\$4.49	\$4.65	\$18.02	\$20.05	\$22.92
YoY Change	17.1%	18.2%	12.5%	9.7%	9.0%	12.2%	11.3%	14.3%
% Change	0.0%	0.0%	2.0%	0.8%	1.3%	1.0%	3.0%	<i>5.5%</i>

Source: Company data, Morgan Stanley Research estimates

Financials

Exhibit 2: ADBE ARR Model

(\$ Millions, Except Per-Share Data)	FY21	FY22	2/23	5/23	8/23	11/23	FY23	2/24	5/24	8/24E	11/24E	FY24E	2/25E	5/25E	8/25E	11/25E	FY25E	FY26E
ARR Metrics																		
Total Digital Media																		
Total Digital Media ARR YoY Growth QoQ Growth	\$12,237 20%	\$13,971 15%	\$13,669 10% -2.2%	\$14,139 9% 3.4%	\$14,603 9% 3.3%	\$15,172 9% 3.9%	\$15,172 14%	\$15,764 15% 3.9%	\$16,251 15% 3.1%	\$16,711 14% 2.8%	\$17,282 14% 3.4%	\$17,282 13%	\$17,804 13% 3.0%	\$18,320 13% 2.9%	\$18,833 13% 2.8%	\$19,394 12% 3.0%	\$19,394 12%	\$21,729 12%
Net New Digital Media ARR	\$1,979	\$1,907	\$410	\$470	\$464	\$569	\$1,913	\$432	8487	8460	\$571	\$1,950	8522	\$517	8512	\$561	\$2,112	\$2.335
Net new Digital media AHH YoY Growth OoO Growth Historic Seasonality (3-year average)	7%	\$1,907 -4%	-2% -29% -24%	1% 15% 14%	3% -1% -4%	-1% 23% 24%	0%	5% -24% -25%	4% 13% 15%	-1% -6% -6%	0% 24% 25%	\$1,950 2%	21% -9% -27%	6% -1% 13%	11% -1% -3%	-2% 9% 25%	\$2,112 8%	11%
+FX ARR Adjustment + Other One-Time Items = Adjusted ARR		-\$80 \$14,051				\$15,332												
Price Increase Uplift Adjusted Net New DM ARR YoY Growth		\$200 \$1,707	\$209 \$201 -\$1	\$199 \$271 -40%	\$131 \$333 -20%	\$63 \$506 21%	\$602 \$1,311 -23.2%	\$76 \$356 \$1	\$92 \$395 46%	\$90 \$370 11%	\$68 \$503 -1%	\$326 \$1,624 23.9%	\$34 \$488 37%	\$18 \$498 26%	\$2 \$511 38%	\$1 \$560 11%	\$55 \$2,056 26.6%	\$5 \$2,331 13.3%
Document Services																		
Document Services ARR YoY Growth QoQ Growth	\$1,933 32%	\$2,372 23%	\$2,396 18% 0.6%	\$2,502 17% 4.9%	\$2,634 17% 5.3%	\$2,805 18% 6.5%	\$2,805 23%	\$2,981 25% 6.3%	\$3,146 26% 5.5%	\$3,268 24% 3.9%	\$3,391 21% 3.8%	\$3,391 19%	\$3,536 19% 4.3%	\$3,696 17% 4.5%	\$3,817 17% 3.3%	\$3,937 16% 3.2%	\$3,937 16%	\$4,520 15%
Net New Document Services ARR	\$471	\$452	\$103	\$116	\$132	\$171	\$522	\$143	\$165	\$122	\$123	\$553	\$145	\$160	\$121	\$121	\$547	\$582
YoY Growth QoQ Growth Historic Seasonality (3-year average)	26% 34%	-4% 30%	0% -16% -24%	8% 13% 16%	11% 14% 5%	39% 30% 20%	15% 24%	39% -16% -21%	42% 15% 11%	-8% -26% 7%	-28% 1% 22%	6% 21%	1% 18% -20%	-3% 11% 11%	-1% -25% 0%	-2% 0% 11%	-1% 18%	6% 17%
+FX ARR Adjustment = Adjusted ARR						-\$33 \$2,838												
Price Increase Uplift Adjusted Net New DC ARR YoY Growth		\$58 \$394	\$81 \$22 -\$1	\$81 \$35 -68%	\$87 \$45 -62%	\$30 \$141 115%	\$279 \$243 -38.5%	\$10 \$133 \$5	\$10 \$155 346%	\$4 \$118 161%	\$1 \$122 -14%	\$26 \$527 117.3%	\$1 \$144 8%	\$1 \$159 3%	\$0 \$120 2%	\$0 \$120 -1%	\$3 \$544 3.2%	\$582 7.1%
Document Services as a % of Digital Media ARR	16%	17%	17%	18%	18%	18%	18%	19%	19%	20%	20%	20%	20%	20%	20%	20%	20%	21%
Creative Cloud																		
Paid Subscriptions YoY Growth	23,643,425	26,163,423	26,588,572	26,944,658	27,343,839	27,801,422	27,801,422 6%	28,643,134	29,560,394	30,508,358	31,610,555	31,610,555 14%	33,149,935	35,006,549	37,319,526	40,295,863	40,295,863 27%	50,455,862
Net New Added Subscribers QoQ QoQ Growth	2,964,704	2,519,998	425,149 -39.6%	356,086 -16,2%	399,181 12.1%	457,582 14.6%	1,637,999	361,376 -21.0%	917,261 153.8%	947,964	1,102,197	3,328,798	1,539,380	1,856,613	2,312,978 24.6%	2,976,336	8,685,307	10,159,999
YoY Growth	46%	-15%	-35%	-35%	-35%	-35%	-35%	-15%	158%	137%	141%	103%	326%	102%	144%	170%	161%	17%
Average Revenue Per User Per Month YoY Growth	\$31.8 5%	\$32.5 2%	\$31.0	\$31.6	\$32.1	\$32.7	\$32.7 1%	\$32.8	\$32.7	\$32.5	\$32.6	\$32.6 0%	\$31.8	\$31.0	\$29.9	\$28.6	\$28.6 -12%	\$25.6 -11%
ARR of ETLAs YoY Growth % of Creative ARR	\$1,285 7% 12%	\$1,409 10% 12%	\$1,388	\$1,407	\$1,428	\$1,452	\$1,452 3% 12%	\$1,506	\$1,518	\$1,529	\$1,541	\$1,541 6% 11%	\$1,599	\$1,611	\$1,623	\$1,635	\$1,635 6% 11%	\$1,735 6% 10%
Creative ARR YoY Growth QoQ Growth	\$10,304 18%	\$11,599 13%	\$11,283 8% -2.7%	\$11,637 8% 3.1%	\$11,969 7% 2.9%	\$12,367 7% 3.3%	\$12,367 13%	\$12,783 13% 3.4%	\$13,105 13% 2.5%	\$13,443 12% 2.6%	\$13,891 12% 3.3%	\$13,891 11%	\$14,268 12% 2.7%	\$14,625 12% 2.5%	\$15,016 12% 2.7%	\$15,456 11% 2.9%	\$15,456 11%	\$17,210 11%
Net New Creative ARR	\$1,520	\$1,455	\$307	\$354	\$332	\$398	\$1,391	\$289	\$322	\$338	\$448	\$1,397	\$377	\$356	\$392	\$440	\$1,565	\$1,753
YoY Growth QoQ Growth Historic Seasonality (3-year average)	4% -12%	-4% -14%	-3% -32% -25%	-1% 15% 14%	1% -6% -6%	-12% 20% 26%	-4% -13%	-6% -27% -27%	-9% 11% 16%	2% 5% -9%	13% 33% 27%	-15%	30% -16% -29%	11% -5% 13%	16% 10% -3%	-2% 12% 30%	12%	12% -4%
Price Increase Uplift Adjusted Net New CC ARR YoY Growth		\$142 \$1,313	\$128 \$179 -43%	\$117 \$237 -31%	\$45 \$287 -4%	\$33 \$365 3%	\$323 \$1,068 -19%	\$66 \$223 25%	\$81 \$241 2%	\$86 \$252 -12%	\$67 \$381 5%	\$300 \$1,097 3%	\$34 \$343 54%	\$18 \$338 41%	\$2 \$390 54%	\$1 \$439 15%	\$55 \$1,510 38%	\$5 \$1,749 16%

Source: Company data, Morgan Stanley Research estimates

Exhibit 3: ADBE Income Statement

(\$ Millions, Except Per-Share Data)	FY21	FY22	FY23	2/24	5/24	8/24E	11/24E	FY24E	2/25E	5/25E	8/25E	11/25E	FY25E	FY26E
Total Revenue	15,785	17,606	19,409	5,182	5,309	5,360	5,598	21,450	5,772	5,902	5,977	6,163	23,814	26,771
% YoY Growth	22.7%	11.5%	10.2%	11.3%	10.2%	9.6%	10.9%	10.5%	11.4%	11.2%	11.5%	10.1%	11.0%	12.4%
% QoQ Growth	-	-	-	3%	2%	1%	4%	-	3%	2%	1%	3%	-	-
Cost of Revenue														
Total Cost of Revenue	1,615	1,838	1,989	518	525	583	609	2,235	581	639	705	735	2,660	2,917
Gross Income	14,170	15,768	17,420	4664	4784	4777	4990	19,215	5191	5263	5272	5428	21,153	23,855
Gross Margin	89.8%	89.6%	89.8%	90.0%	90.1%	89.1%	89.1%	89.6%	89.9%	89.2%	88.2%	88.1%	88.8%	89.1%
Operating Expenses														
Research & Development	1,984	2,270	2,591	703	747	722	754	2,926	766	813	787	812	3,178	3,572
Sales & marketing	4,008	4,557	4,851	1,216	1,310	1,326	1,411	5,263	1,331	1,439	1,461	1,535	5,766	6,483
General & Administrative	919	996	1,060	278	286	293	304	1,161	298	306	314	322	1,241	1,395
Other Expenses	1457	1847	2207	1,560	514	580	602	3256	581	585	660	686	2513	2864
Total Operating Expenses	6,911	7,823	8,502	2,197	2,343	2,341	2,469	9,350	2,395	2,557	2,563	2,669	10,184	11,450
% YoY Growth	17.5%	13.2%	8.7%	7.7%	9.2%	10.1%	12.7%	10.0%	9.0%	9.2%	9.5%	8.1%	8.9%	12.4%
Operating Income	7,259	7,945	8,918	2,467	2,441	2,436	2,521	9,865	2,796	2,706	2,709	2,759	10,969	12,405
% Margin	46.0%	45.1%	45.9%	47.6%	46.0%	45.4%	45.0%	46.0%	48.4%	45.8%	45.3%	44.8%	46.1%	46.3%
% YoY Growth	31.5%	9.5%	12.2%	15.8%	12.0%	7.6%	7.6%	10.6%	13.3%	10.8%	11.2%	9.5%	11.2%	13.1%
Incremental Revenue	2917	1821	1803	134	127	51	238	2041	173	130	75	186	2364	2957
Incremental OpEx	1027	912	679	6	146	-2	128	848	-74	162	5	106	834	1266
Incremental Operating Margin	64.8%	49.9%	62.3%	95.5%	-15.0%	103.7%	46.3%	58.4%	142.7%	-24.8%	92.9%	43.0%	64.7%	57.2%
EBITDA	7,355	8,041	9,017	2,478	2,452	2,447	2,532	9,910	2,808	2,718	2,722	2,772	11,020	12,462
EBITDA Margin	46.6%	45.7%	46.5%	47.8%	46.2%	45.7%	45.2%	46.2%	48.7%	46.1%	45.5%	45.0%	46.3%	46.5%
Other Income	-113	-71	133	43	41	57	56	197	55	53	43	39	190	189
Income Before Taxes	7.146	7.874	9.051	2.510	2.482	2.493	2,577	10,061	2,851	2.759	2.752	2.798	11.160	12,594
Income Tax Expense	1,143	1,417	1,674	464	459	461	476	1,860	527	510	509	517	2.064	2,329
Tax Rate	16.0%	18.0%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Management	0.000	0.457	7.077	0.040	0.000	0.000	0.400	0.004	0.004	0.040	2.243	0.004	9.096	40.005
Net Income EPS (Diluted) - Operating	6,003 12.47	6,457 13.72	7,377 16.06	2,046 4.49	2,023 4.49	2,032 4.52	2,100 4.71	8,201 18.20	2,324 5.22	2,249 5.09	2,243 5.11	2,281 5.23	9,096 20.66	10,265 24.17
% YoY Growth	24%	10%	17%	18%	15%	11%	10%	13%	16%	13%	13%	11%	13%	17%
Stock option expense, net of tax	930	1,165	1,074	382	385	438	457	1,662	440	442	504	525	1,911	2,198
Adjusted Net Income	5,073	5,292	6,303	1,664	1,638	1,593	1,643	6,539	1,884	1,806	1,739	1,755	7,185	8,067
Adjusted EPS (incl. Stock comp)	10.54	11.24	13.72	3.65	3.63	3.55	3.69	14.52	4.23	4.09	3.96	4.03	16.32	19.00
% YoY Growth	26%	7%	22%	-4%	16%	8%	5%	6%	16%	13%	12%	9%	12%	16%

Source: Company data, Morgan Stanley Research estimates

Morgan Stanley | RESEARCH

Exhibit 4: ADBE Revenue Segmentation

(\$ Millions, Except Per-Share Data)	=1/0.4	=1/00	=1/00					=>/-					=1/0==	=1/00=
	FY21	FY22	FY23	2/24	5/24	8/24E	11/24E	FY24E	2/25E	5/25E	8/25E	11/25E	FY25E	FY26E
Digital Media YoY Growth QoQ Growth	11,520 24.8%	12,842 11.5% 14.0%	14,216 10.7%	3,816 12.4% 2.7%	3,908 11.3% 2.4%	3,970 10.5% 1.6%	4,132 11.2% 4.1%	15,826 11.3%	4,259 11.6% 3.1%	4,367 11.7% 2.5%	4,442 11.9% 1.7%	4,567 10.5% 2.8%	17,635 11.4%	19,833 <i>12.5%</i>
% of Total Revenue	73.0%	72.9%	73.2%	73.6%	73.6%	74.1%	73.8%	73.8%	73.8%	74.0%	74.3%	74.1%	74.1%	74.1%
Document Services Revenue YoY Growth QoQ Growth	1,974 31.9%	2,383 20.7%	2,699 13.3%	750 18.3% 4.0%	782 18.7% 4.3%	782 14.2% 0.0%	821 13.9% 5.0%	3,135 16.2%	850 13.3% 3.5%	882 12.8% 3.8%	878 12.2% -0.5%	917 11.7% 4.5%	3,527 12.5%	3,939 11.7%
Digital Media ex Document Services YoY Growth QoQ Growth	9,546 <i>23.4%</i>	10,459 9.6%	11,517 10.1%	3,066 11.0% 2.4%	3,126 9.6% 2.0%	3,188 9.6% 2.0%	3,311 10.6% 3.8%	12,691 10.2%	3,409 11.2% 3.0%	3,485 11.5% 2.2%	3,565 11.8% 2.3%	3,650 10.2% 2.4%	14,109 11.2%	15,894 <i>12.7%</i>
Digital Experience (New) YoY Growth OoQ Growth	3,867 23.7%	4,422 14.4%	4,893 10.7%	1,289 10% 1.8%	1,327 8.6% 2.9%	1,335 9% 0.6%	1,399 11% 4.8%	5,350 9.3%	1,434 11% 2.5%	1,477 11% 3.0%	1,492 12% 1.0%	1,541 10% 3.3%	5,944 11.1%	6,743 13.5%
% of Total Revenue	24%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Publishing and Advertising- (New) YoY Growth QoQ Growth % of Total Revenue	398 -22%	342 -14%	300 -12%	77 -8.3% 16.7%	74 -10.8% -3.9%	55 -18.3% -26.0%	67 2.0% 22.9%	273 -9%	78 1.8% 16.4%	58 -22.1% -26.4%	43 -21.5% -25.5%	55 -17.7% 28.9%	234 -14%	194 -17%
Total Revenue YoY Growth QoQ Growth	15,785 22.7%	17,606 11.5%	19,409 10.2%	5,182 11.3% 2.7%	5,309 10.2% 2.5%	5,360 9.6% 1.0%	5,598 10.9% 4.4%	21,450 10.5%	5,772 11.4% 3.1%	5,902 11.2% 2.3%	5,977 11.5% 1.3%	6,163 10.1% 3.1%	23,814 11.0%	26,771 12.4%

Source: Company data, Morgan Stanley Research estimates

Exhibit 5: ADBE Balance Sheet

(\$ Millions, Except Per-Share Data)														
	FY21	FY22	FY23	2/24	5/24	8/24E	11/24E	FY24E	2/25E	5/25E	8/25E	11/25E	FY25E	FY26E
													-	
Assets	3.844	4,236	7,141	6.254	7.660	7,577	7,645	7,645	7.418	6,426	6.030	6.916	6.916	7,438
Cash & Cash Equivalents Short Term Investments	1,954	1.860	7,141	566	405	405	405	405	405	405	405	405	405	405
Accounts Receivable	1.878	2.065	2.224	2.057	1.612	1.780	2.454	2.454	2.113	2.179	2.226	3.039	3.039	3,822
Inventory	0	2,000	0	0	1,012	0,700	2, .01	2,.01	2,0	2,0	0	0,000	0,000	0,022
Other Receivables	Ö	Ö	Ó	0		0	Ö	0	Ō	0	0	o l	Ö	0
Deferred Income Taxes	0	0	0	0		0	0	0	0	0	0	0	0	0
Other Current Assets	975	835	1,018	1,131	1,346	1,018	961	961	1,097	1,121	1,136	873	873	779
Total Current Assets	8,651	8,996	11,084	10,008	11,023	10,781	11,466	11,466	11,032	10,131	9,797	11,234	11,234	12,444
PP&E	1,673	1,908	2,030	1,988	1,969	1,952	1,934	1,934	1,917	1,900	1,883	1,867	1,867	1,805
Goodwill	12,721	12,787	12,805	12,803	12,803	12,803	12,803	12,803	12,803	12,803	12,803	12,803	12,803	12,803
Intangibles	1,820	1,449	1,088	1,011	933	903	873	873	843	813	783	753	753	633
Investment in Lease Receivable	0	0	0	0		0	0	0	0	0	0	0	0	0
Deferred Income Taxes	1,085	777	1,191	1,310	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436	1,436
Other Non-Current Assets	1,291	1,248	1,581	1,631	1,843	1,912	1,529	1,529	2,174	2,341	2,490	1,437	1,437	1,348
Total Assets	27,241	27,165	29,779	28,751	30,007	29,786	30,041	30,041	30,205	29,424	29,193	29,530	29,530	30,468
Liabilities	312	379	314	300	357	414	357	357	489	468	534	395	395	445
Accounts Payable Accrued Expenses	1.736	1.790	1,942	1.569	1.899	1.945	2.005	2.005	2.047	2.093	2.141	2.184	2.184	2.455
Deferred Revenue	4.733	5,297	5.837	5.975	5.558	5.517	6.082	6.082	6.655	6.179	6.151	6.695	6.695	7.577
Current Portion of Long Term Debt	4,700	500	0,007	1,497	1.498	1.498	1,498	1,498	1,498	1.498	1.498	1,498	1.498	1.498
Other Current Liabilities	151	162	158	196	162	162	162	162	162	162	162	162	162	162
Total Current Liabilities	6,932	8,128	8,251	9,537	9,474	9,535	10,104	10,104	10,851	10,400	10,486	10,934	10,934	12,138
Debt	4,123	3,629	3,634	2,138	4,127	4,127	4,127	4,127	4,127	4,127	4,127	4,127	4,127	4,127
Income taxes payable	534	530	514	668	591	534	474	474	474	474	474	474	474	474
Long-term Deferred Revenue	145	117	113	135	128	124	237	237	156	148	144	384	384	575
Deferred Income Taxes	5	28	0	0	0	0	0	0	0	0	0	0	0	0
Other Long Term Liabilities	705	682	749	813	844	844	844	844	844	844	844	844	844	844
Total Liabilities	12,444	13,114	13,261	13,291	15,164	15,164	15,786	15,786	16,453	15,993	16,076	16,764	16,764	18,158
Common and Preferred Stock	0	0	0 1	0		0	0	0 1	0	0	0	0	0	0
Additional Paid in Capital	8.428	9,868	11,586	12,037	12,504	13,302	13,862	13,862	14,401	14,944	15,562	16,207	16,207	18,903
Other Comprehensive Income	(137)	(293)	(285)	(277)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
Treasury Stock	(17,399)	(23,843)	(28,129)	(30,109)	(32,612)	(35,204)	(37,755)	(37,755)	(40,256)	(42,832)	(45,484)	(48,216)	(48,216)	(58,826)
Retained Earnings	23,905	28,319	33,346	33,809	35,227	36,801	38,425	38,425	39,883	41,595	43,315	45,051	45,051	52,510
Total Stockholder's Equity	14,797	14,051	16,518	15,460	14,843	14,622	14,255	14,255	13,752	13,431	13,117	12,766	12,766	12,311
	27.241	27.165	29,779	28.751	30.007	29.786	30.041	30.041	30.205	29.424	29.193	29,530	29,530	30.468
Total Liabs & Stockholder's Equity	21,241	21,105	29,179	20,/31	30,007	29,700	30,041	30,041	ას,∠სე	29,424	29,193	29,530	∠9,530	30,408

Source: Company data, Morgan Stanley Research estimates

Exhibit 6: ADBE Cash Flow Statement

Adobe, Inc.														
Cash Flow Statement (Quarterly)														
(\$ Millions, Except Per-Share Data)	FY21	FY22	FY23	2/24	5/24	8/24E	11/24E	FY24E	2/25E	5/25E	8/25E	11/25E	FY25E	FY26E
Operating Activities: Net income (loss)	4.822	4.756	5.428	620	1.573	1.569	1.619	5.381	1,454	1.706	1.715	1.732	6.607	7.438
Adjustments to Operating Activities:	4,022	4,750	5,425	020	1,575	1,505	1,013	3,301	1,454	1,700	1,710	1,702	0,007	1,400
Depreciation & Amortization (PPE & non-PPE)	788	856	872	212	214	94	95	616	96	97	98	99	392	408
Impairment of PP&E, Goodwill & Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acquired In-Process R&D	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stock Compensation Expense	1,069	1,440	1,718	451	467	538	560	2,016	539	543	618	644	2,345	2,696
Deferred Income Taxes	183	0	0	0	0	0	0	0	0	0	0	0	0	0
Provision for Losses on Receivables	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tax Benefit - Issuance of Stock / Ex. of Options	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Excess Tax Benefit from Stock Based Compensation	0	0 29	0 (10)	0	0	0	0	0	0	0	0	0	0	0
Gains (Losses) on Investments	(4) 80	421	(351)	(109)	(314)	(57)		(540)	0	0	0	0	0	0
Non-Cash Restructuring and Other Charges Change in deferred revenue	1.053	536	536	(109)	(314)	(57) (46)	(59) 679	633	492	(484)	(31)	784	761	1.073
Change in deferred revenue Change in operating assets & liabilities	(761)	(200)	(891)	0	0	194	(231)	(38)	(264)	(234)	(97)	406	(188)	(277)
Net Cash Provided by (used in) Operating Activities	7,230	7.838	7.302	1,174	1.940	2,291	2.663	8.068	2.317	1.629	2.304	3.666	9.916	11,337
% Margin	45.8%	44.5%	37.6%	22.7%	36.5%	42.7%	47.6%	37.6%	40.1%	27.6%	38.5%	59.5%	41.6%	42.3%
YoY Growth	26%	8%	-7%	EE., 70	00.070	12.770	17.070	10%	10.170	27.070	00.070	00.070	23%	14%
Cash Flows From Investing Activities														
Purchase - Property & Equipment	(348)	(442)	(360)	(37)	(41)	(42)	(43)	(163)	(44)	(45)	(47)	(48)	(184)	(206)
Acquisitions, Net of Cash	(1,475)	(126)	` 0´	` o´	` o´	` 0´	` o´	` 0′	` o´	` o´	` o´	` o´	` 0´	` 0′
Sales & Maturities of Marketable Securities	(465)	44	1,188	139	163	0	0	302	0	0	0	0	0	0
Investments	(1,249)	(46)	(52)	(36)	(11)	0	0	(47)	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Cash Used in Investing Activities	(3,537)	(570)	776	66	111	(42)	(43)	92	(44)	(45)	(47)	(48)	(184)	(206)
Cash Flows From Financing Activities														
Common Stock, Net	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Proceeds - Exercise of Options & Purchase Plans	0	0	0	0	0	0	0	ő	0	0	0	0	0	0
Proceeds - Exercise of Options & Purchase Plans Proceeds from borrowings under line of credit	0	0	(500)	0	1.997	0	0	1.997	0	0	0	ŭ	0	0
Excess Tax Benefit from Stock Based Compensation	(515)	(276)	(197)	(125)	(135)	260	ő	1,337	0	Ů	0	0	ň	ŏ
Treasury Stock	(3,863)	(6,550)	(4,400)	(2,000)	(2,500)	(2,592)	(2,551)	(9,643)	(2,501)	(2,575)	(2,652)	(2,732)	(10,460)	(10,610)
Convertible, Net	(0,000)	(0,000)	(1,100)	(2,000)	(2,000)	(2,002)	(2,001)	(0,0.0)	(2,001)	(2,0.0)	(2,002)	(2,702)	(10,100)	(10,010)
Other	77	ĭ	(85)	(3)	(4)	ő	ő	(7)	ő	ő	ő	ő	ŏ	ŏ
Net Cash Provided by Financing Activities	(4,301)	(6,825)	(5,182)	(2,128)	(642)	(2,332)	(2,551)	(7,653)	(2,501)	(2,575)	(2,652)	(2,732)	(10,460)	(10,610)
Exchange Rate Impact	(26)	(51)	9	1	(3)	0	0	(2)	0	0	0	0	0	0
Exonange riate impact	` ′	` ′	-		(0)		Ů	(2)	ŭ	•	ŭ	Ŭ	ŭ	Ů
Change in Cash and Cash Equivalents	(634)	392	2,905	(887)	1,406	(83)	68	504	(228)	(992)	(395)	886	(729)	522
Cash, Beginning of Period	4,478	3,844	4,236	7,141	6,254	7,660	7,577	7,141	7,645	7,418	6,426	6,030	7,645	6,916
Cash, end of period	3,844	4,236	7,141	6,254	7,660	7,577	7,645	7,645	7,418	6,426	6,030	6,916	6,916	7,438

[|] Cash, end of period |
Notes: |
1) Cash flow actuals represent reported figures from most recent company fillings. |
2) As a result of acquisitions, in some instances, not all quarters with a given year have been restated.

FCF	6,882.0	7,396.0	6,942.0	1,137.0	1,899.0	2,249.4	2,619.5	7,904.9	2,273.1	1,583.5	2,257.1	3,617.8	9,731.5	11,131.9
FCF Margin %	44%	42%	36%	22%	36%	42%	47%	37%	39%	27%	38%	59%	41%	42%

Source: Company data, Morgan Stanley Research estimates



Risk Reward Reference links

- 1. View explanation of Options Probabilities methodology Options_Probabilities_Exhibit_Link.pdf
- $2.\ View\ descriptions\ of\ Risk\ Rewards\ Themes\ -\ RR_Themes_Exhibit_Link.pdf$
- 3. View explanation of regional hierarchies GEG_Exhibit_Link.pdf
- 4. View explanation of Theme/Exposure methodology ESG_Sustainable_Solutions_External_Link.pdf
- 5. View explanation of HERS methodology ESG_HERS_External_Link.pdf



Disclosure Section

The information and opinions in Morgan Stanley Research were prepared by Morgan Stanley & Co. LLC, and/or Morgan Stanley C.T.V.M. S.A., and/or Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., and/or Morgan Stanley Canada Limited. As used in this disclosure section, "Morgan Stanley" includes Morgan Stanley & Co. LLC, Morgan Stanley C.T.V.M. S.A., Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., Morgan Stanley Canada Limited and their affiliates as necessary.

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA

For valuation methodology and risks associated with any recommendation, rating or price target referenced in this research report, please contact the Client Support Team as follows: US/Canada +1 800 303-2495; Hong Kong +852 2848-5999; Latin America +1 718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61 (0)2-9770-1505; Tokyo +81 (0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Keith Weiss, CFA.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies. A Portuguese version of the policy can be found at www.morganstanley.com.br

Important Regulatory Disclosures on Subject Companies

The analyst or strategist (or a household member) identified below owns the following securities (or related derivatives): Elizabeth Porter, CFA - Microsoft(common or preferred stock). As of May 31, 2024, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: 8x8 Inc, Adobe Inc., Akamai Technologies, Inc., Amplitude Inc., Appian Corp, Asana Inc, Atlassian Corporation PLC, Autodesk, BigCommerce Holdings, Inc., Bill.com Holdings, Blackline Inc, Box Inc, C3.ai, Chegg Inc, Cloudflare Inc, Couchbase, Inc., CrowdStrike Holdings Inc, CyberArk Software Ltd, Datadog, Inc., DigitalOcean Holdings Inc, DocuSign Inc, Dynatrace Inc, E2open Parent Holdings Inc, Fastly Inc., Five9 Inc, Fortinet Inc., Freshworks Inc, GoDaddy Inc., HashiCorp, HubSpot, Inc., Intuit, Klaviyo, Inc, Liveramp Holdings Inc, Matterport Inc, Microsoft, MongoDB Inc, Okta, Inc., PagerDuty, Inc., Palantir Technologies Inc., Palo Alto Networks Inc, Qualys Inc, Sabre Corp, Salesforce.com, Samsara Inc, SentinelOne, Inc., ServiceNow Inc, Shopify Inc, Snowflake Inc., Sprinklr Inc, Tenable Holdings Inc, Toast, Inc., Twilio Inc, Wix.Com Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, ZoomInfo Technologies Inc.

Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of Akamai Technologies, Inc., Blackline Inc, CCC Intelligent Solutions Holdings Inc, Five9 Inc, Intuit, Klaviyo, Inc, LegalZoom.com Inc, PagerDuty, Inc., RingCentral Inc, Vertex Inc..

Within the last 12 months, Morgan Stanley has received compensation for investment banking services from Akamai Technologies, Inc., Autodesk, Cloudflare Inc, CyberArk Software Ltd, Five9 Inc, GoDaddy Inc, Instructure Holdings Inc, Intuit, Klaviyo, Inc, LegalZoom.com Inc, Microsoft, PagerDuty, Inc., Qualys Inc, RingCentral Inc, Shopify Inc, Vertex Inc..

In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from 2u Inc, Adobe Inc., Akamai Technologies, Inc., Amplitude Inc., Appian Corp, Asana Inc, Atlassian Corporation PLC, Autodesk, BigCommerce Holdings, Inc., Bill.com Holdings, Blackline Inc, Box Inc, C3.ai, CCC Intelligent Solutions Holdings Inc, Check Point Software Technologies Ltd., Chegg Inc, Cloudflare Inc, Confluent, Inc., Couchbase, Inc., Coursera, Inc., CrowdStrike Holdings Inc, CyberArk Software Ltd, Datadog, Inc., DigitalOcean Holdings Inc, Docebo Inc., DocuSign Inc, Dynatrace Inc, Fastly Inc., Five9 Inc, Fortinet Inc., Freshworks Inc, Gen Digital Inc., GoDaddy Inc, HashiCorp, HubSpot, Inc., Instructure Holdings Inc, Intuit, JFrog Ltd., Klaviyo, Inc, LegalZoom.com Inc, Lightspeed POS Inc., Liveramp Holdings Inc, Matterport Inc, Microsoft, MongoDB Inc, NICE Ltd., Okta, Inc., Oracle Corporation, PagerDuty, Inc., Palantir Technologies Inc., Palo Alto Networks Inc, Qualys Inc, Rapid7 Inc, RingCentral Inc, Sabre Corp, Salesforce.com, Samsara Inc, Secureworks Corp, Semrush Holdings Inc -A, SentinelOne, Inc., ServiceNow Inc, Shopify Inc, Smartsheet Inc, Snowflake Inc., Solarwinds Corp, Sprinklr Inc, Sprout Social Inc, Tenable Holdings Inc, Toast, Inc., Twilio Inc, Udemy Inc, UiPath Inc, Varonis Systems, Inc., Vertex Inc., WalkMe Ltd, Wix.Com Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, Zscaler Inc.

Within the last 12 months, Morgan Stanley has received compensation for products and services other than investment banking services from 2u Inc, 8x8 Inc, Adobe Inc., Akamai Technologies, Inc., Atlassian Corporation PLC, Autodesk, Box Inc, CCC Intelligent Solutions Holdings Inc, Check Point Software Technologies Ltd., Cloudflare Inc, Confluent, Inc., Digital Ocean Holdings Inc, DocuSign Inc, Dynatrace Inc, Five9 Inc, Freshworks Inc, Gen Digital Inc., Intuit, LegalZoom.com Inc, Microsoft, NICE Ltd., Oracle Corporation, Palantir Technologies Inc., Palo Alto Networks Inc, Qualys Inc, RingCentral Inc, Sabre Corp, Salesforce.com, Snowflake Inc., Solarwinds Corp, Tenable Holdings Inc, Toast, Inc., Udemy Inc, UiPath Inc, Wix.Com Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, Zscaler Inc.

Within the last 12 months, Morgan Stanley has provided or is providing investment banking services to, or has an investment banking client relationship with, the following company: 2u Inc, Adobe Inc., Akamai Technologies, Inc., Amplitude Inc., Appian Corp, Asana Inc, Atlassian Corporation PLC, Autodesk, BigCommerce Holdings, Inc., Bill.com Holdings, Blackline Inc, Box Inc, Ca.ai, CCC Intelligent Solutions Holdings Inc, Check Point Software Technologies Ltd., Chegg Inc, Cloudflare Inc, Confluent, Inc., Couchbase, Inc., Coursera, Inc., CrowdStrike Holdings Inc, CyberArk Software Ltd, Datadog, Inc., DigitalOcean Holdings Inc, Docebo Inc., Docubign Inc, Dynatrace Inc, Fastly Inc., Five9 Inc, Fortinet Inc., Freshworks Inc., Gen Digital Inc., GoDaddy Inc, HashiCorp, HubSpot, Inc., Instructure Holdings Inc, Intuit, JFrog Ltd., Klaviyo, Inc, LegalZoom.com Inc, Lightspeed POS Inc., Liveramp Holdings Inc, Matterport Inc, Microsoft, MongoDB Inc, NICE Ltd., Okta, Inc., Oracle Corporation, PagerDuty, Inc., Palantir Technologies Inc., Palo Alto Networks Inc, Qualys Inc, Rapid7 Inc, RingCentral Inc, Sabre Corp, Salesforce.com, Samsara Inc, Secureworks Corp, Semrush Holdings Inc.-A, SentinelOne, Inc., ServiceNow Inc, Shopify Inc, Smartsheet Inc, Snowflake Inc., Solarwinds Corp, Sprinklr Inc, Sprout Social Inc, Tenable Holdings Inc, Toast, Inc., Twilio Inc, Udemy Inc, UiPath Inc, Varonis Systems, Inc., Vertex Inc., WalkMe Ltd, WixCom Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, Zscaler Inc.

Within the last 12 months, Morgan Stanley has either provided or is providing non-investment banking, securities-related services to and/or in the past has entered into an agreement to provide services or has a client relationship with the following company: 2u Inc, 8x8 Inc, Adobe Inc., Akamai Technologies, Inc., Atlassian Corporation PLC, Autodesk, BigCommerce Holdings, Inc., Blackline Inc, Box Inc, CCC Intelligent Solutions Holdings Inc, Check Point Software Technologies Ltd., Chegg Inc, Cloudflare Inc, Confluent, Inc., CyberArk Software Ltd, Datadog, Inc., Digital Ocean Holdings Inc, DocuSign Inc, Dynatrace Inc, Five9 Inc, Fortinet Inc., Freshworks Inc, Gen Digital Inc., GoDaddy Inc, HubSpot, Inc., Intuit, LegalZoom.com Inc, Microsoft, MongoDB Inc, NICE Ltd., Okta, Inc., Oracle Corporation, PagerDuty, Inc., Palantir Technologies Inc., Palo Alto Networks Inc, Qualys Inc, RingCentral Inc, Sabre Corp, Salesforce.com, ServiceNow Inc, Shopify Inc, Snowflake Inc., Solarwinds Corp, Tenable Holdings Inc, Toast, Inc., Twilio Inc, Udemy Inc, UiPath Inc, Wix.Com Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, Zscaler Inc. An employee, director or consultant of Morgan Stanley is a director of Tenable Holdings Inc. This person is not a research analyst or a member of a research analyst's household.

Morgan Stanley & Co. LLC makes a market in the securities of 2u Inc, 8x8 Inc, Adobe Inc., Akamai Technologies, Inc., Applian Corp, Asana Inc, Atlassian Corporation PLC, Autodesk, BigCommerce Holdings, Inc., Blackline Inc, Box Inc, C3.ai, CCC Intelligent Solutions Holdings Inc, Check Point Software Technologies Ltd., Chegg Inc, Confluent, Inc., Couchbase, Inc., Coursera,



Inc., CyberArk Software Ltd, Datadog, Inc., DigitalOcean Holdings Inc, Docebo Inc., DocuSign Inc, Domo Inc, Dynatrace Inc, E2open Parent Holdings Inc, Five9 Inc, Fortinet Inc., Freshworks Inc, Gen Digital Inc., GoDaddy Inc, HashiCorp, Instructure Holdings Inc, Intuit, JFrog Ltd., Karooooo Ltd, LegalZoom.com Inc, Liveramp Holdings Inc, Microsoft, Oracle Corporation, PagerDuty, Inc., Palo Alto Networks Inc, Qualys Inc, Rapid7 Inc, RingCentral Inc, Sabre Corp, Salesforce.com, Secureworks Corp, Semrush Holdings Inc -A, ServiceNow Inc, Shopify Inc, Smartsheet Inc, Solarwinds Corp, Sprinklr Inc, Sprout Social Inc, Tenable Holdings Inc, Udemy Inc, Varonis Systems, Inc., Vertex Inc., WalkMe Ltd, Wix.Com Ltd, Workday Inc, Zeta Global Holdings Corp, Zoom Video Communications Inc, ZoomInfo Technologies Inc, Zscaler Inc.

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues. Equity Research analysts' or strategists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report. Morgan Stanley trades or may trade as principal in the debt securities (or in related derivatives) that are the subject of the debt research report.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Global Stock Ratings Distribution

(as of May 31, 2024)

The Stock Ratings described below apply to Morgan Stanley's Fundamental Equity Research and do not apply to Debt Research produced by the Firm.

For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	Coverag	e Universe	Inves	stment Banking Clients	Other Material Investment Services Clients (MISC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1455	39%	338	45%	23%	683	41%
Equal-weight/Hold	1742	46%	342	46%	20%	774	46%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	573	15%	70	9%	12%	223	13%
Total	3,773		750			1681	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated helow

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below. Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below. Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

736

900

800

700

600 500

300 200 100

2021

0./A

06/01 2024

Stock Price, Price Target and Rating History (See Rating Definitions)

index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.



J| J| A| S| O| N| D| J| F| M| A| M | J| J| A| S| O| N| D| J| F| M| A| M

Stock Rating History: 6/1/19 : 0/A; 7/27/20 : 0/I; 3/8/21 : 0/A; 6/21/22 : E/A; 7/31/23 : 0/A Price Target History: 4/29/19 : 340; 12/9/19 : 410; 2/27/20 : 450; 3/13/20 : 366; 3/25/20 : 375; 6/12/20 : 450; 9/14/20 : 560; 3/24/21 : 575; 6/18/21 : 610; 9/15/21 : 736; 12/17/21 : 652; 3/23/22 : 591; 6/21/22 : 362; 9/15/22 : 337; 12/16/22 : 382; 3/16/23: 385; 6/12/23: 470; 6/16/23: 510; 7/31/23: 660 No Price Target Assigned (NA) Date Format : MM/DD/YY Source: Morgan Stanley Research Price Target -- Stock Price (Covered by Current Analyst) Stock Price (Not Covered by Current Analyst): Stock and Industry Ratings (abbreviations below) appear as ♦ Stock Rating/Industry View Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA) Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR) Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage. Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country

Important Disclosures for Morgan Stanley Smith Barney LLC & E*TRADE Securities LLC Customers

06/01 2022

Important disclosures regarding the relationship between the companies that are the subject of Morgan Stanley Research and Morgan Stanley Smith Barney LLC or Morgan Stanley or any of their affiliates, are available on the Morgan Stanley Wealth Management disclosure website at www.morganstanley.com/online/researchdisclosures. For Morgan Stanley specific disclosures, you may refer to www.morganstanley.com/researchdisclosures.

Each Morgan Stanley research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC and E*TRADE Securities LLC. This review and approval is conducted by the same person who reviews the research report on behalf of Morgan Stanley. This could create a conflict of interest.

Other Important Disclosures

Morgan Stanley & Co. International PLC and its affiliates have a significant financial interest in the debt securities of 2u Inc, Adobe Inc., Akamai Technologies, Inc., Autodesk, Blackline Inc, Box Inc, Chegg Inc, Cloudflare Inc, Confluent, Inc., CyberArk Software Ltd, Datadog, Inc., Digital Ocean Holdings Inc, DocuSign Inc, Five9 Inc, Gen Digital Inc., Intuit, Legal Zoom.com Inc, Microsoft, Okta, Inc., Oracle Corporation, Palantir Technologies Inc., Palo Alto Networks Inc, Rapid7 Inc, RingCentral Inc, Salesforce.com, Toast, Inc., Vertex Inc., Workday Inc, Zscaler Inc.

A member of Research who had or could have had access to the research prior to completion owns securities (or related derivatives) in the Microsoft. This person is not a research analyst or a member of research analyst's household.

Morgan Stanley Research policy is to update research reports as and when the Research Analyst and Research Management deem appropriate, based on developments with the issuer, the sector, or the market that may have a material impact on the research views or opinions stated therein. In addition, certain Research publications are intended to be updated on a regular periodic basis (weekly/monthly/quarterly/annual) and will ordinarily be updated with that frequency, unless the Research Analyst and Research Management determine that a different publication schedule is appropriate based on current conditions.

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Morgan Stanley Research is provided to our clients through our proprietary research portal on Matrix and also distributed electronically by Morgan Stanley to clients. Certain, but not all, Morgan Stanley Research products are also made available to clients through third-party vendors or redistributed to clients through alternate electronic means as a convenience. For access to all available Morgan Stanley Research, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Any access and/or use of Morgan Stanley Research is subject to Morgan Stanley's Terms of Use (http://www.morganstanley.com/terms.html). By accessing and/or using Morgan Stanley Research, you are indicating that you have read and agree to be bound by our Terms of Use (http://www.morganstanley.com/terms.html). In addition you consent to Morgan Stanley processing your personal data and using cookies in accordance with our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html), including for the purposes of setting your preferences and to collect readership data so that we can deliver better and more personalized service and products to you. To find out more information about how Morgan Stanley



processes personal data, how we use cookies and how to reject cookies see our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html). If you do not agree to our Terms of Use and/or if you do not wish to provide your consent to Morgan Stanley processing your personal data or using cookies please do not access our research. Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

The "Important Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management.

Morgan Stanley may make investment decisions that are inconsistent with the recommendations or views in this report.

To our readers based in Taiwan or trading in Taiwan securities/instruments: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Any non-customer reader within the scope of Article 7-1 of the Taiwan Stock Exchange Recommendation Regulations accessing and/or receiving Morgan Stanley Research is not permitted to provide Morgan Stanley Research to any third party (including but not limited to related parties, affiliated companies and any other third parties) or engage in any activities regarding Morgan Stanley Research which may create or give the appearance of creating a conflict of interest. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves. Neither this report nor any part of it is intended as, or shall constitute, provision of any consultancy or advisory service of securities investment as defined under PRC law. Such information is provided for your reference only.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A. located at Av. Brigadeiro Faria Lima, 3600, 6th floor, São Paulo - SP, Brazil; and is regulated by the Comissão de Valores Mobiliários; in Mexico by Morgan Stanley México, Casa de Bolsa, S.A. de C.V which is regulated by Comision Nacional Bancaria y de Valores. Paseo de los Tamarindos 90, Torre 1, Col. Bosques de las Lomas Floor 29, 05120 Mexico City; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Morgan Stanley Bank Asia Limited; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Morgan Stanley Bank Asia Limited, Singapore Branch (Registration number T14FC0118)); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at 18th Floor, Tower 2, One World Center, Plot-841, Jupiter Textile Mill Compound, Senapati Bapat Marg, Lower Parel, Mumbai 400013, India Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com; in Canada by Morgan Stanley Canada Limited; in Germany and the European Economic Area where required by Morgan Stanley Europe S.E., authorised and regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin) under the reference number 149169; in the US by Morgan Stanley & Co. LLC, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, disseminates in the UK research that it has prepared, and research which has been prepared by any of its affiliates, only to persons who (i) are investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"); (ii) are persons who are high net worth entities falling within Article 49(2)(a) to (d) of the Order; or (iii) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000, as amended) may otherwise lawfully be communicated or caused to be communicated. RMB Morgan Stanley Proprietary Limited is a member of the JSE Limited and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley Proprietary Limited is a joint venture of the proprietary Limited is a jInc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited. The information in Morgan Stanley Research is being disseminated by Morgan Stanley



Saudi Arabia, regulated by the Capital Market Authority in the Kingdom of Saudi Arabia, and is directed at Sophisticated investors only.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA), and is directed at Professional Clients only, as defined by the DFSA. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria to be a Professional Client. A distribution of the different MS Research ratings or recommendations, in percentage terms for Investments in each sector covered, is available upon request from your sales representative.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided exclusively to persons based on their risk and income preferences by the authorized firms. Comments and recommendations stated here are general in nature. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages relating to such data. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P.

Morgan Stanley Research, or any portion thereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

Indicators and trackers referenced in Morgan Stanley Research may not be used as, or treated as, a benchmark under Regulation EU 2016/1011, or any other similar framework.

The issuers and/or fixed income products recommended or discussed in certain fixed income research reports may not be continuously followed. Accordingly, investors should regard those fixed income research reports as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or individual fixed income products. Morgan Stanley may hold, from time to time, material financial and commercial interests regarding the company subject to the Research report.

Registration granted by SEBI and certification from the National Institute of Securities Markets (NISM) in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.

INDUSTRY COVERAGE: Software

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/13/2024)
Chris Quintero		
Blackline Inc (BL.O)	E (09/18/2023)	\$45.42
E2open Parent Holdings Inc (ETWO.N)	E (01/17/2024)	\$4.50
Vertex Inc. (VERX.0)	0 (01/17/2024)	\$35.32
Elizabeth Porter, CFA		
Amplitude Inc. (AMPL.0)	U (02/01/2024)	\$8.35
Freshworks Inc (FRSH.0)	E (10/18/2021)	\$12.32
GoDaddy Inc (GDDY.N)	E (07/19/2021)	\$138.18
HubSpot, Inc. (HUBS.N)	0 (03/21/2023)	\$567.00
Klaviyo, Inc (KVYO.N)	E (10/16/2023)	\$22.74
LegalZoom.com Inc (LZ.0)	U (07/28/2022)	\$8.20
Liveramp Holdings Inc (RAMP.N)	O (07/15/2019)	\$29.73
Matterport Inc (MTTR.O)	E (04/19/2022)	\$3.97
Semrush Holdings Inc -A (SEMR.N)	E (06/06/2022)	\$13.88
Sprinklr Inc (CXM.N)	E (07/19/2021)	\$8.88
Sprout Social Inc (SPT.0)	E (11/17/2020)	\$34.21
Wix.Com Ltd (WIX.0)	E (05/19/2022)	\$165.29
Zeta Global Holdings Corp (ZETA.N)	O (04/04/2024)	\$16.43
ZoomInfo Technologies Inc (ZI.0)	E (02/01/2024)	\$12.14
Hamza Fodderwala		
Check Point Software Technologies Ltd. (CHKP.0)	E (10/16/2023)	\$157.56
Cloudflare Inc (NET.N)	E (10/30/2023)	\$73.51
CrowdStrike Holdings Inc (CRWD.0)	O (01/09/2024)	\$382.81
CyberArk Software Ltd (CYBR.O)	E (01/09/2024)	\$251.79
Fortinet Inc. (FTNT.0)	O (10/07/2022)	\$60.23
Gen Digital Inc. (GEN.O)	E (06/07/2024)	\$24.49
Okta, Inc. (OKTA.0)	E (09/01/2022)	\$88.24
Palo Alto Networks Inc (PANW.0)	O (10/10/2017)	\$319.66
Qualys Inc (QLYS.0)	U (02/09/2021)	\$138.19
Rapid7 Inc (RPD.0)	E (08/11/2015)	\$37.72



Secureworks Corp (SCWX.0)	E (09/09/2020)	\$6.56
SentinelOne, Inc. (S.N)	0 (06/12/2023)	\$18.41
Tenable Holdings Inc (TENB.0)	O (01/09/2024)	\$40.80
Varonis Systems, Inc. (VRNS.0)	O (10/16/2023)	\$41.84
Zscaler Inc (ZS.0)	E (01/12/2023)	\$181.05
Josh Baer, CFA		
2u Inc (TWOU.0)	E (11/24/2020)	\$0.23
Asana Inc (ASAN.N)	E (10/26/2020)	\$12.37
BigCommerce Holdings, Inc. (BIGC.0)	E (05/11/2021)	\$7.95
Box Inc (BOX.N)	E (05/21/2024)	\$25.88
CCC Intelligent Solutions Holdings Inc (CCCS.0)	E (12/12/2023)	\$11.56
Chegg Inc (CHGG.N)	U (11/20/2023)	\$3.04
Coursera, Inc. (COUR.N)	0 (04/26/2021)	\$6.70
DigitalOcean Holdings Inc (DOCN.N)	E (08/11/2023)	\$36.36
Docebo Inc. (DCBO.0)	0 (08/17/2023)	\$37.78
DocuSign Inc (DOCU.0)	E (01/16/2024)	\$51.18
Instructure Holdings Inc (INST.N)	0 (12/09/2021)	\$24.29
Lightspeed POS Inc. (LSPD.N)	E (02/18/2021)	\$14.85
Sabre Corp (SABR.O)	E (03/16/2021)	\$2.71
Smartsheet Inc (SMAR.N)	O (05/22/2018)	\$41.93
Toast, Inc. (TOST.N)	0 (12/16/2021)	\$22.72
Udemy Inc (UDMY.0)	E (11/23/2021)	\$8.65
WalkMe Ltd (WKME.0)	++	\$13.73
Keith Weiss, CFA		
Adobe Inc. (ADBE.0)	O (07/31/2023)	\$458.74
Akamai Technologies, Inc. (AKAM.0)	E (04/29/2020)	\$88.35
Atlassian Corporation PLC (TEAM.O)	0 (01/13/2020)	\$156.02
Autodesk (ADSK.O)	E (08/19/2021)	\$223.10
Bill.com Holdings (BILL.N)	E (06/12/2023)	\$48.40
Intuit (INTU.O)	0 (10/05/2020)	\$594.62
Microsoft (MSFT.0)	0 (01/13/2016)	\$441.58
Oracle Corporation (ORCL.N)	E (01/15/2019)	\$139.85
Palantir Technologies Inc. (PLTR.N)	U (08/31/2023)	\$23.27
Salesforce.com (CRM.N) Samsara Inc (IOT.N)	0 (12/21/2023)	\$229.03 \$28.60
ServiceNow Inc (NOW.N)	E (03/23/2023) O (11/12/2020)	\$709.76
Shopify Inc (SHOP.N)	O (04/19/2024)	\$64.69
Snowflake Inc. (SNOW.N)	E (02/29/2024)	\$125.90
UiPath Inc (PATH.N)	E (09/07/2022)	\$11.53
Workday Inc (WDAY.O)	O (04/14/2020)	\$207.08
Meta A Marshall	0 (0 1, 1 1, 2020)	
8x8 Inc (EGHT.0)	E (01/13/2020)	\$2.32
Five9 Inc (FIVN.0)	E (10/10/2022)	\$42.01
NICE Ltd. (NICE.O)	O (10/16/2023)	\$168.15
RingCentral Inc (RNG.N)	E (08/08/2023)	\$29.02
Twilio Inc (TWLO.N)	O (09/19/2019)	\$55.69
Zoom Video Communications Inc (ZM.O)	E (10/11/2022)	\$57.94
Roy D Campbell	_(\(\cdots\), \(\cdots\)	*****
Karoooo Ltd (KARO.O)	0 (04/27/2021)	\$35.68
	0 (04/2//2021)	933.00
Sanjit K Singh	E (12/02/2021)	\$28.67
Appian Corp (APPN.0) C3.ai (Al.N)	E (12/03/2021) U (01/04/2021)	\$28.67
Confluent, Inc. (CFLT.0)	O (04/12/2023)	\$30.49
Couchbase, Inc. (GASE.O)	E (08/16/2021)	\$17.85
5535.10406, 1110. (b) (b). (b).	E (00/ 10/ 2021)	Ş17.0J



Datadog, Inc. (DDOG.O)	O (05/21/2021)	\$119.54
Domo Inc (DOMO.0)	E (01/20/2023)	\$6.59
Dynatrace Inc (DT.N)	E (02/13/2024)	\$46.57
Fastly Inc. (FSLY.N)	E (04/20/2023)	\$7.27
HashiCorp (HCP.0)	E (04/29/2024)	\$33.65
JFrog Ltd. (FROG.O)	O (12/21/2023)	\$33.97
MongoDB Inc (MDB.0)	O (04/12/2023)	\$218.18
PagerDuty, Inc. (PD.N)	E (01/24/2024)	\$20.98
Solarwinds Corp (SWI.N)	E (11/13/2018)	\$11.54

Stock Ratings are subject to change. Please see latest research for each company.

© 2024 Morgan Stanley

^{*} Historical prices are not split adjusted.