



Q1 2022 Market Report

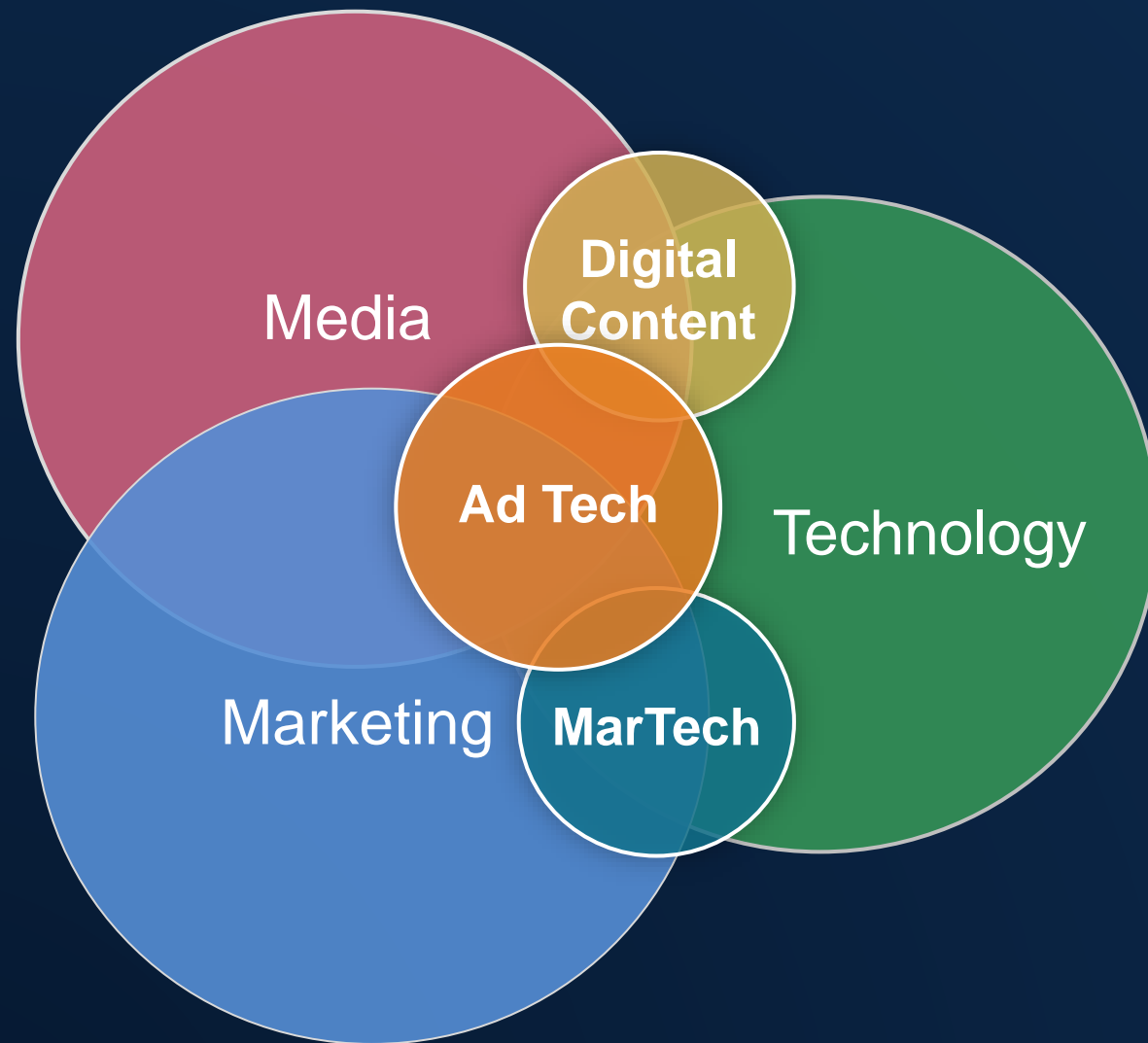
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LUMA's Focus on Digital Media & Marketing



- LUMA's expertise is at the intersection of Media, Marketing and Technology.
- At this intersection exists:
 - Ad Tech
 - MarTech
 - Digital Content
- These companies employ a variety of business models including services, media, data, commerce and software.

LUMA's Recent Deals



March 2022

tvSquared[™]

has agreed to be acquired by

INNOVD

The undersigned acted as exclusive financial advisor to TV Squared Limited

January 2022

APPLOVIN

has agreed to acquire

mopub[™]

a wholly owned subsidiary of

The undersigned acted as exclusive financial advisor to AppLovin Corporation

December 2021

APPLOVIN

Secondary Offering
\$622,500,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to AppLovin Corporation

September 2021

Reflektion

has been acquired by

SITECORE[™]

The undersigned acted as a financial advisor to Reflektion, LLC

August 2021

publica

has been acquired by

IAS Integral Ad Science

The undersigned acted as the exclusive financial advisor to Publica LLC

July 2021

Outbrain

Initial Public Offering
\$160,000,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to Outbrain, Inc.

July 2021

JetFuel

has been acquired by

Vungle

The undersigned acted as the exclusive financial advisor to JetFuel, Inc.

July 2021

Chartboost

has agreed to be acquired by

zynga[®]

The undersigned acted as financial advisor to Chartboost, Inc.

June 2021

Simplifi

has agreed to sell an equity interest to

Blackstone

The undersigned acted as financial advisor to Simplifi Holdings, Inc.

April 2021

APPLOVIN

Initial Public Offering
\$2,000,000,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to AppLovin Corporation.

Executive Summary

Overview

- After six straight quarters of increasing momentum across M&A, public markets, and private financings, Q1 2022 was a serious test for the Digital Media & Marketing ecosystem, as it managed through an array of exogenous challenges impacting the broader economy.
- This quarter was marked by staggering inflation, which reached a 40-year high in January, and the start of war in Ukraine, leading to global unrest, wide-spread uncertainty, and sharp declines in financial markets – none of which are strong foundations for deal-making.
- Despite these difficulties, overall deal activity remained strong across the Digital Media & Marketing landscape, as strategics and financial investors continued to lean into the sector, though this trend applied primarily to “sub-scale” M&A (<\$100mm), with scaled activity dropping across all sectors.
- Public markets were the hardest hit by the challenges in Q1, with the broader market seeing the largest declines since the start of COVID and tech stocks taking the brunt of the pain in a continuation of a tech selloff that began in late 2021.

M&A Activity

- While global M&A was reported to be down this quarter, Digital Media & Marketing M&A was up generously from a year ago, with **+24%** YoY growth.
- **Ad Tech** was the only sector that saw a decline QoQ (**-25%**) in M&A activity but managed to hold flat YoY. Surprisingly, both **MarTech** and **Digital Content** saw gains from last year and the prior quarter – able to outpace what had been had a strong Q4, growing **+22%** and **+26%** QoQ, respectively.
- Whereas overall deal activity was up, scaled M&A (>\$100mm) was down across the board (**-30.3%**), as buyers focused more on tuck-ins than transformative transactions during a time of such uncertainty.
- While ongoing uncertainty will continue to bring challenges to M&A, we expect the underlying trends driving the momentum in 2021 (e.g., streaming and gaming gains, increased eCommerce sales, and general software adoption), will continue to drive M&A throughout the sector, albeit with more deliberate buyers, particularly when considering scaled opportunities.

Public Markets Activity

- After very active public markets throughout 2021, Q1 2022 saw a complete dry up of new issuances, marking the first quarter since Q2 2020 that didn't have a new issuance in **Ad Tech** or **MarTech**.
- This came as no surprise given the challenges facing tech-focused equities writ large, with the Nasdaq 100 trading down **-9%** during the quarter and **Ad Tech** and **MarTech** indices down, **-17%** and **-25%**, respectively.
- That said, the valuation backdrop for technology issuers has remained positive when compared to pre-COVID valuations, as both the Ad Tech Index (**+330%**) and MarTech Index (**+63%**) have kept most of their gains from the post-COVID rally of 2020.

Private Financing Activity

- Private capital markets have remained a healthy source of capital for growth-stage companies in **Ad Tech**, **MarTech**, and **Digital Content**; investment firms showed an increasing degree of comfort with large check sizes (>\$100mm) throughout 2021, which continued into Q1 2022 despite the broader global uncertainties.

Source: LUMA, FactSet (market data as of 3/31/2022).

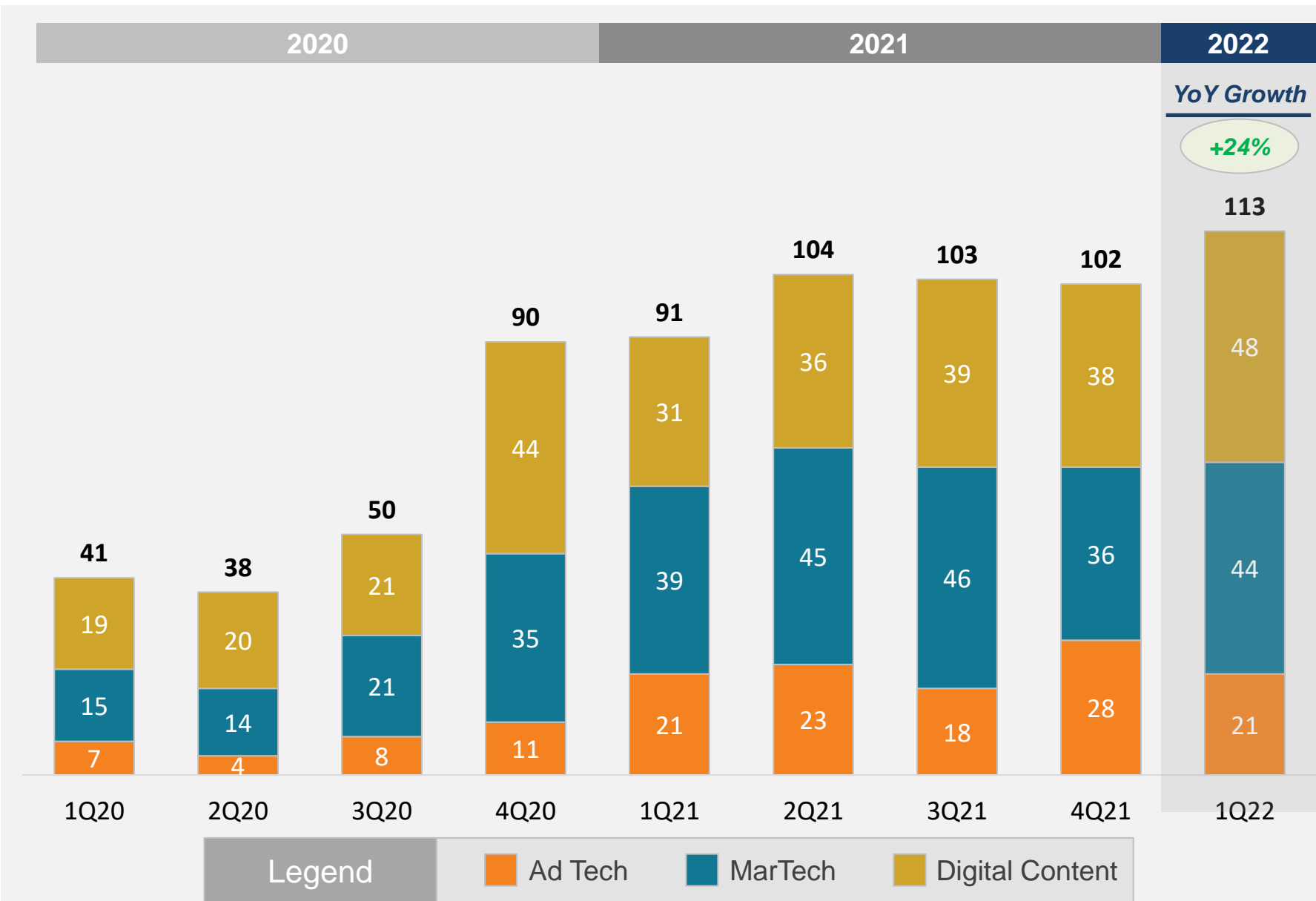
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Media & MarTech M&A Activity by Sector – Quarterly View

Ad Tech
MarTech
Digital Content

Number of Transactions – Quarterly (1Q20-1Q22)



Commentary

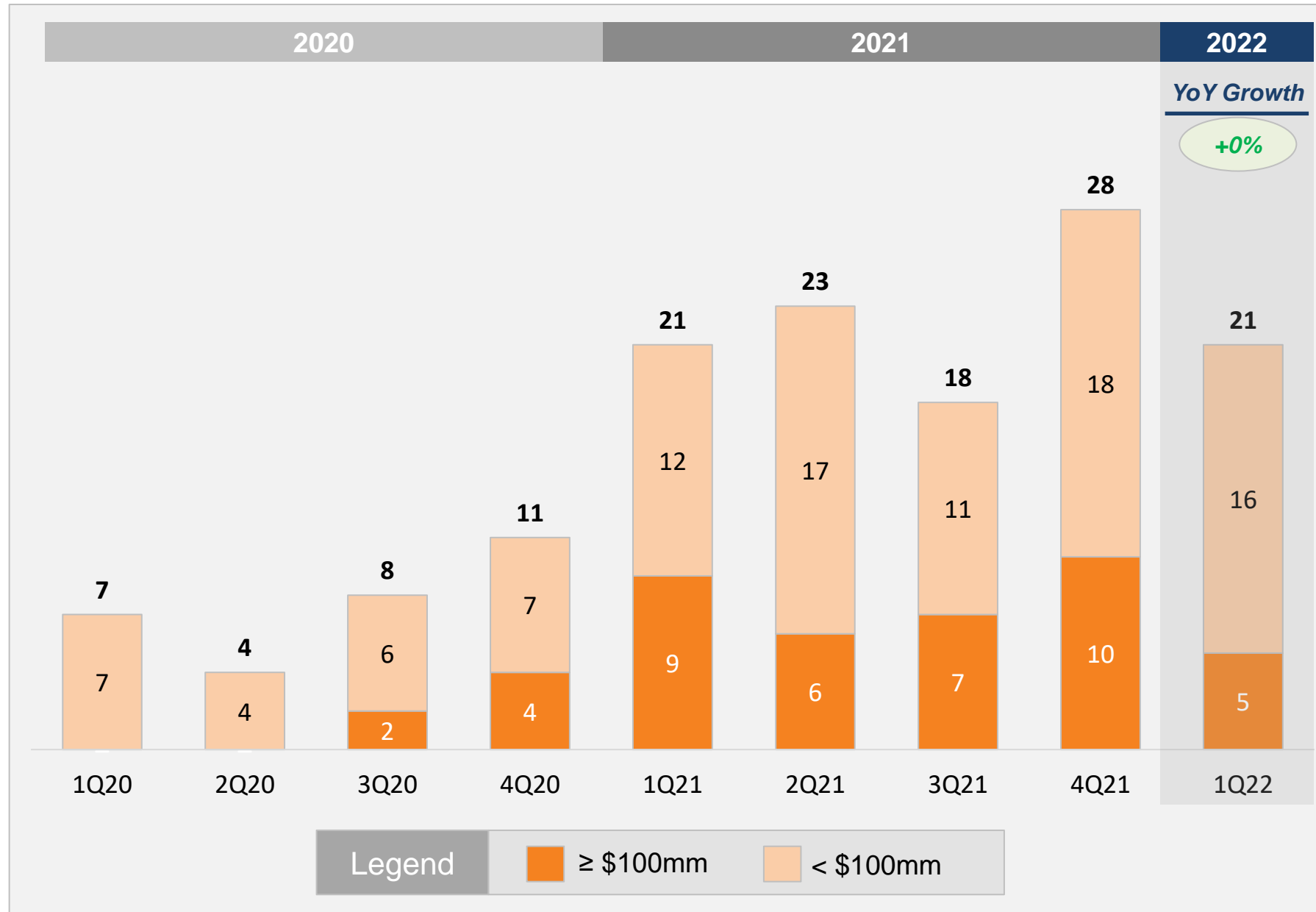
- While Q1 2022 was a “post-honeymoon” quarter for most of the global M&A market, the Ad Tech, MarTech and Digital Content sectors were able to maintain strong momentum that began post the COVID slowdown in 2020 and achieved **+24%** YoY growth in deal activity.
- Where the cooldown was most felt was in scaled deal activity (\geq \$100mm), which was cut by a quarter from 2021 averages – only 23 scaled deals were announced in Q1 2022 compared to an average of 31 scaled deals a quarter in 2021.
- The strength of 2021 was driven by extraordinary fiscal and monetary interventions by the U.S. Federal Government and Federal Reserve in 2020 & 2021, robust public equity valuations, and optimism on long-term consumer trends towards digital channels.
- Two of these three factors reversed in Q1 2022 (Fed actions & equity valuations), and while optimism remains, global unrest and loosening COVID restrictions have brought added uncertainty.
- Ultimately, we believe the strong underlying digital trends will drive continued activity but expect buyers to take added caution and conviction while considering scaled opportunities.

Source: LUMA, PitchBook, Company announcements.

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Number of Transactions – Quarterly (1Q20-1Q22)



Source: LUMA, PitchBook, Company announcements.

Observations

- Ad Tech scaled deal activity was the most impacted of the sub-sectors in Q1 – down **50%** QoQ and **44%** YoY.
- CTV and Mobile remain bright spots in the sector, with multiple scaled transactions, including Innovid’s \$160mm acquisition of TVSquared, AppLovin’s \$430mm acquisition of Wurl, one of the first scaled cross-over deals between CTV and mobile apps, and Mayfair’s majority investment in LoopMe.
- Private equity also continued to be active with the aforementioned Mayfair investment, as well as add-on deals from PE-backed TripleLift and Simpli.fi.



















Looking Ahead

- CTV and Mobile Ad Tech will continue as key themes for strategic buyers and Private Equity alike; we expect a continuation of the trend of scaled, notable transactions in these spaces.
- With data and identity complexities abound, we expect to see continued attention and M&A activity in capabilities built for these challenges / opportunities, whether it be retail media, contextual, or cookie-less solutions.

Ad Tech – Q1 2022 Notable Deals

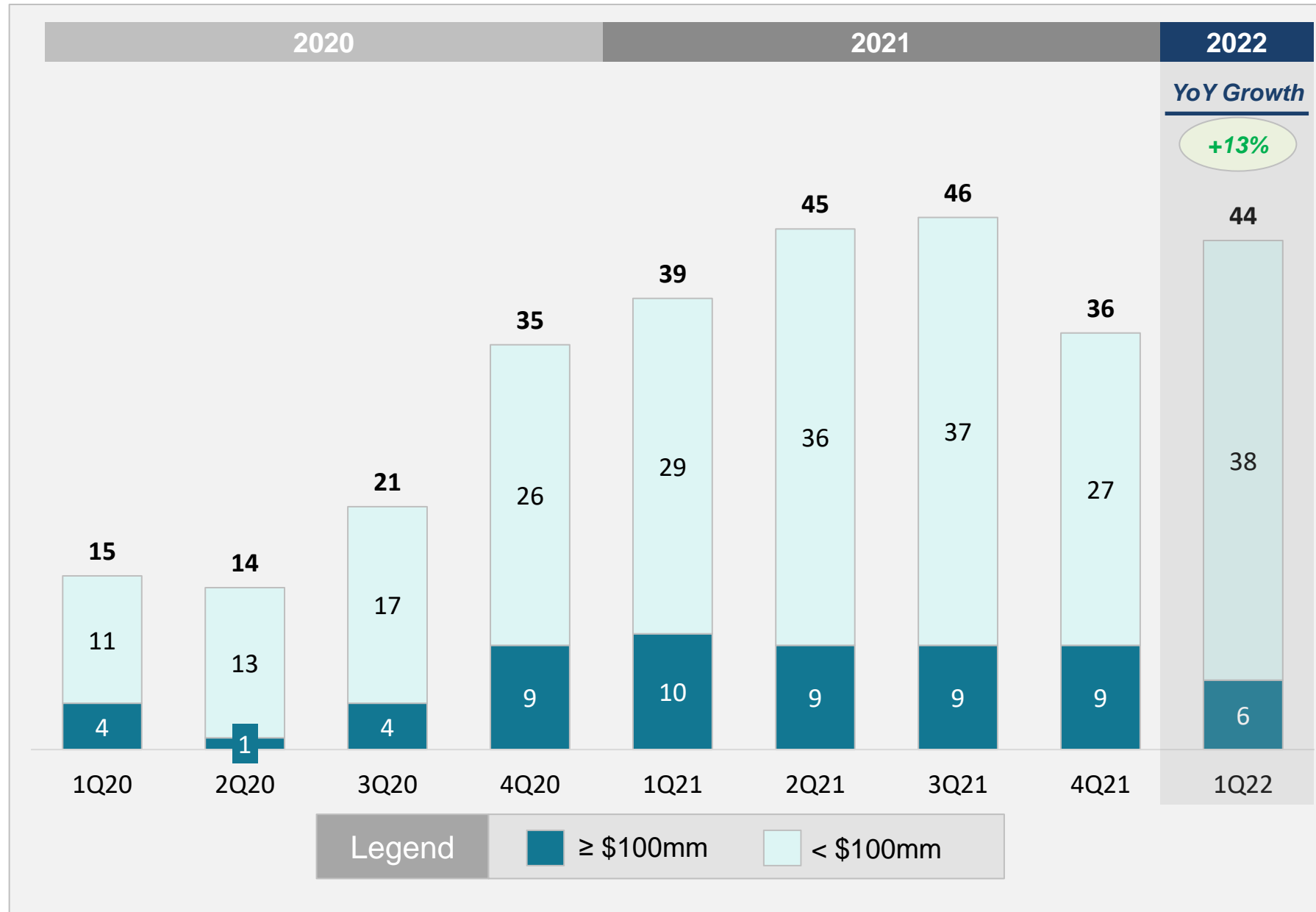
Highlight denotes LUMA Transactions

Ad Tech
MarTech
Digital Content

Announcement Date	Target	Acquirer	Cumulative Capital Raised	Enterprise Value	Commentary
3/29/2022	 theviewpoint	 tatari	ND	ND	<ul style="list-style-type: none"> Tatari, a CTV ad measurement platform, has acquired TheViewPoint, a CTV-focused SSP and ad-server. The acquisition will allow publishers to connect directly with Tatari demand and reduce the "ad tech tax."
3/22/2022	 1plusx	 triplelift	\$17	\$150	<ul style="list-style-type: none"> TripleLift, a programmatic native ad platform, has acquired 1PlusX, a 1P data activation platform. The combination will create a scaled independent platform that is equipped to navigate a privacy-centric future.
3/2/2022	 ENGINE	 NEXT15	\$51	\$100	<ul style="list-style-type: none"> UK agency group Next Fifteen Communications, is acquiring Engine Group's UK operations. Engine brings with it a broad-based digital transformation, communications, and creative business.
2/28/2022	 wurl	 APPLOVIN	\$38	\$430	<ul style="list-style-type: none"> AppLovin has agreed to acquired Wurl, a CTV content distribution and ad platform, for \$430mm. The acquisition will further AppLovin's goal of broadening its digital marketing platform by breaking into CTV.
2/16/2022	 Chartable podsights	 Spotify	\$10	ND	<ul style="list-style-type: none"> Spotify has acquired Chartable, an audience insight tool, and Podsights, a campaign attribution tool. The podcast-centric focus of both these acquisitions underlines Spotify's continued commitment to this space.
2/7/2022	 tvssquared	 INNOVD	\$27	\$160	<ul style="list-style-type: none"> Innovid, a CTV ad delivery and measurement platform, has acquired TVSquared, a CTV attribution firm. This is Innovid's first acquisition post de-SPAC as they work to build a more holistic CTV platform.
1/25/2022	 CoreMedia <small>Buy. Manage. Analyze. Optimize.</small>	 Simplifi	ND	ND	<ul style="list-style-type: none"> Blackstone and GTCR-backed Simplifi, has acquired CoreMedia, a performance media management software. The deal will allow the two to deepen existing integrations between their platforms that serve 1500 ad agencies.
1/13/2022	 LoopMe	 MAYFAIR EQUITY PARTNERS	\$49	\$200	<ul style="list-style-type: none"> Mayfair Equity Partners acquired LoopMe, an AI-powered, brand-based mobile ad attribution platform. Mayfair's \$120mm majority investment will accelerate growth in the US and support expansion into Japan.
1/10/2022	 Octopus	 T-Mobile	\$13	ND	<ul style="list-style-type: none"> T-Mobile has acquired Octopus Interactive, an on-board rideshare advertising network. The acquisition follows T-Mobile Marketing Solutions' prior acquisition of Pushspring.

Source: PitchBook, Company Announcements, AdExchanger, BusinessInsider, PRNewswire, PRWeek, Reuters Variety, VentureBeat, The Verge, WSJ.
 Note: All figures in USD millions unless noted otherwise. Deals shown reflect those announced during the quarter ending March 31, 2022.

Number of Transactions – Quarterly (1Q20-1Q22)



Source: LUMA, PitchBook, Company announcements.

Observations

- Unlike AdTech, MarTech saw increased overall deal activity both QoQ (+22%) and YoY (+13%).
- Despite the overall growth, scaled deal activity was challenged throughout the quarter, with only a handful of scaled transactions. This lack of scaled deals has not been seen since Q3 2020, though the quarter ended on a strong note with the announced \$16 billion take-private of Nielsen.
- A key theme throughout the quarter were add-ons from Private Equity backed businesses, as evidenced by Smartly.io's acquisition of Ad-Lib (Providence), Gainsight's acquisition of InSided (Vista), and NielsenIQ's acquisition of ciValue (Advent).














Looking Ahead

- Given the growing number of MarTech businesses that have achieved scale and profitability, we expect a return to more large-scale transactions (>\$1bn) as buyers adjust to the current market.
- The swelling importance of first-party data will only continue to add focus on key capabilities tied to interoperability, compliance & consent-management, and measurement / attribution.

MarTech – Q1 2022 Notable Deals

Highlight denotes LUMA Transactions

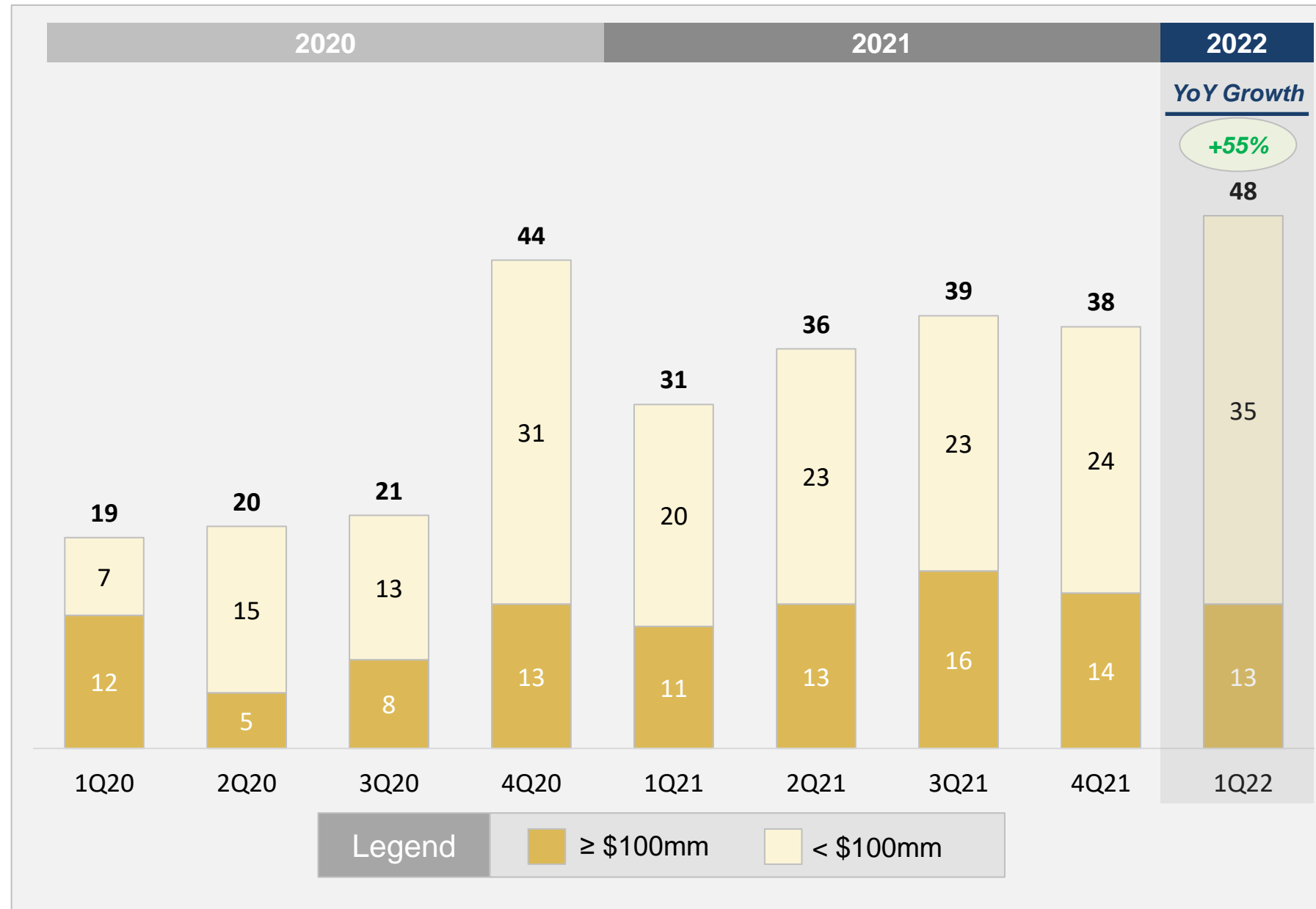
Ad Tech
MarTech
 Digital Content

Announcement Date	Target	Acquirer	Cumulative Capital Raised	Enterprise Value	Commentary
3/29/2022	 Nielsen	 Brookfield EVERGREEN CAPITAL	NM	\$16,000	<ul style="list-style-type: none"> Nielsen, a TV audience measurement company, will be acquired by a group of private equity investors. Nielsen generates \$3.5bn in annual global revenue, and recently turned down a \$9bn offer from the same group.
3/7/2022	 edgecast	 Limelight NETWORKS	ND	\$300	<ul style="list-style-type: none"> Limelight, a content-delivery network (CDN), has agreed to acquire EdgeCast Yahoo's CDN service. The all-stock deal will give Yahoo 31% of the combined entity, which generated \$500mm in revenue in 2021.
2/28/2022	 Oribi	 LinkedIn	\$28	~\$85	<ul style="list-style-type: none"> LinkedIn has acquired Oribi, a no-code attribution measurement and customer journey analytics platform. Oribi's functionality will help LinkedIn's ad clients measure campaign performance.
2/24/2022	 infutor	 Verisk	ND	\$224	<ul style="list-style-type: none"> Verisk, a financial industry data analytics provider, has acquired Infutor, a customer identity management tool. The complementary data stack and focus on 1P privacy were central to the strategic narrative of the transaction.
2/14/2022	 nogin	Software Acquisition Group III	\$21	\$646	<ul style="list-style-type: none"> Nogin, a commerce-as-a-service platform, will go public via a reverse merger with SWAG III SPAC. Nogin had a >10x LTV:CAC ratio and 105% NRR in 2021, and they expect a 61% CAGR over the next two years.
1/10/2022	 InSided	 Gainsight	\$7	\$85	<ul style="list-style-type: none"> Gainsight, a Vista-backed customer success platform, has acquired InSided, a community engagement platform. The tech stack of the combined entity will provide a holistic solution across the entire customer journey.
1/5/2022	 Ad-Lib.io	 SMARTLY.IO	\$16	\$133	<ul style="list-style-type: none"> Smartly.io, a social advertising platform, has acquired Ad-Lib.io, an AI-powered creative optimization platform. Smartly's SaaS social advertising solution will be augmented with Ad-Lib's tools for YT, DV360, and Google Ads.

Source: PitchBook, Company Announcements, AdExchanger, Axios, CMSWire, CNBC, DataCenterDynamics, GlobeNewswire, PYMNTS.
 Note: All figures in USD millions unless noted otherwise. Deals shown reflect those announced during the quarter ending March 31, 2022.

Digital Content M&A Activity

Number of Transactions – Quarterly (1Q20-1Q22)



Source: LUMA, PitchBook, Company announcements.



















Observations

- Digital Content had arguably the strongest quarter in Q1, both in terms of YoY growth (+55%), as well as the number and size of the scaled transactions.
- Unlike Ad Tech and MarTech, the Digital Content ecosystem was able to deliver multiple transactions over \$1 billion in the quarter.
- Gaming was the driving force behind the activity, with Microsoft's \$68.7 billion acquisition of Activision, Take-Two's \$12.7 billion acquisition of Zynga, and Sony Interactive Entertainment's \$3.6 billion acquisition of Bungie.
- Also of note was the announced acquisition of Tegna and New York Times' acquisition of The Athletic.

Looking Ahead

- We foresee a continuation of elevated deal activity focused on the gaming sector, as well as deals for Web3 + AR/VR tech, as the concept of the "metaverse" has entered the public consciousness.
- We also expect iGaming / sports betting to remain an active theme, as well as sports content, which has been used as driving force for user acquisition.
























Digital Content – Q1 2022 Notable Deals (1 / 3)

Announcement Date	Target	Acquirer	Cumulative Capital Raised	Enterprise Value	Commentary
3/25/2022		NETFLIX	ND	ND	<ul style="list-style-type: none"> Netflix has acquired Boss Fight Entertainment, an independent mobile game developer. The deal is part of Netflix's broader strategy to build out its gaming content to complement their video catalogue.
3/25/2022	 a.k.a. Gambit	glance	ND	\$5	<ul style="list-style-type: none"> Glance, a mobile lock screen entertainment platform and subsidiary of InMobi, has acquired Gambit Sports. Gambit's (a.k.a Nostragamus) fantasy sports and sports betting platform will broaden Glance's content offering.
3/22/2022	Good Luck Games		ND	ND	<ul style="list-style-type: none"> FTX, a crypto exchange, has acquired Good Luck Games, developer of card battlegame, StoryBook Brawl. FTX is launching a gaming unit to encourage publishers to adopt a crypto-as-a-service platform.
3/17/2022			ND	ND	<ul style="list-style-type: none"> Triple Dot, a casual game studio, has acquired Live Play Mobile, a livestreamed social gaming platform. Live Play is best known for their live app, Live Play Bingo that broadcasts 30+ game shows 24/7.
3/17/2022			\$3	ND	<ul style="list-style-type: none"> General Atlantic-backed game publisher Tilting Point, has acquired Budge, a free-to-play app game developer. Budge will continue to operate independently, and will benefit from Tilting Point's distribution capabilities.
3/15/2022		HOMA GAMES	ND	ND	<ul style="list-style-type: none"> Homa, a mobile game publisher, has acquired RisingHigh Academy, a mobile hypercasual game developer. Rising High has 800+ developers, and has been featured 13 times in the App Store's 'New Games We Love'.
3/11/2022			\$11	ND	<ul style="list-style-type: none"> Niantic, the AR game developer behind PokemonGo, has acquired 8th Wall, a WebAR development platform. 8th Wall will integrate with, and expand the developer tools for Niantic's 'Lightship' platform.
3/11/2022			ND	>\$100	<ul style="list-style-type: none"> YugaLabs, the studio behind Bored Ape Yacht Club, has acquired 2 NFT collections - CryptoPunks & Meebits. YugaLabs now controls 3 of the most valuable and well-known NFT collections.
3/2/2022			\$5	ND	<ul style="list-style-type: none"> Epic Games, a leading interactive entertainment company, acquired Bandcamp, an artist discovery platform. Epic said Bandcamp will play an important role in Epic's vision to build out a creator marketplace ecosystem.
3/2/2022		NETFLIX	NM	\$72	<ul style="list-style-type: none"> Netflix has acquired Next Games, the mobile game developer and publisher behind The Walking Dead game. The deal is part of Netflix's broader strategy to build out its gaming content to complement their video catalogue.
3/1/2022			ND	\$300	<ul style="list-style-type: none"> SciPlay, a social casino game developer, has acquired Alictus, a mobile casual game developer. The deal is expected to grow SciPlay's MAUs by 1.8mm and DAUs by 28mm via Alictus international userbase.
2/22/2022	TEGNA		ND	\$8,600	<ul style="list-style-type: none"> Tegna, a media and broadcasting group, will be acquired by Standard General, a hedge fund. After closing, Tegna's Texas assets will be acquired by Cox Media, and Premion will operate standalone.

Source: PitchBook, Company Announcements, Bizjournals, Businesswire, Casino.org, DigiDay, eSportsInsider, GamesIndustry, Mobidictum, NYT, PocketGamer, PRNewswire, Reuters, TechCrunch, VentureBeat.

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Digital Content – Q1 2022 Notable Deals (2 / 3)

Announcement Date	Target	Acquirer	Cumulative Capital Raised	Enterprise Value	Commentary
2/10/2022			ND	ND	<ul style="list-style-type: none"> Rollic, a Turkey-based subsidiary of Zynga, has acquired Nano Tribe, a Germany-based mobile game studio. Nano Tribe joins Rollic's portfolio of hyper casual games, and offers a geographic expansion opportunity.
2/3/2022			ND	ND	<ul style="list-style-type: none"> General Atlantic-backed Tilting Point, has acquired AN Games, a desktop and mobile strategy game developer. Tilting point is a game publisher, and this is their first major acquisition since their 2021 \$235mm raise.
2/1/2022			ND	\$85	<ul style="list-style-type: none"> Meta, facebook's parent company, has acquired Accysonus, an audio content creation software. Meta has been looking for audio solutions specific to virtual reality and the metaverse.
1/31/2022			\$47	\$3,600	<ul style="list-style-type: none"> Sony Interactive Entertainment has acquired Bungie, which will operate as an independent subsidiary post-close. The acquisition of a notable FPS developer supports their strategy to diversify the audience of PlayStation.
1/28/2022	Trebia Acquisition Corp		\$518	\$1,400	<ul style="list-style-type: none"> System1, a responsive acquisition marketing platform, has gone public after it completed its de-SPAC. System1 was founded in 2013, and its brands include Startpage, info.com and MapQuest.
1/27/2022			ND	\$100	<ul style="list-style-type: none"> Nexters, a game developer, has acquired three game studios - Cubic Games, RJ Games, and Royal Ark. These are Nexters inaugural acquisitions as a public company, and are cumulatively worth over \$100mm.
1/24/2022			\$27	~\$500	<ul style="list-style-type: none"> Savvy Gaming Group is buying 2 eSports leaders, ESL and FACEIT, for a combined \$1.5bn. ESL Gaming, previously owned by Modern Times Group, reportedly represented \$1bn of Savvy's investment.
1/24/2022			ND	ND	<ul style="list-style-type: none"> Kwalee, a hypercasual games studio. has acquired Tictales, a developer of story-driven mobile games. Tictales is Kwalee's first acquisition, and has released 14 games since its founding in 2015.
1/21/2022			\$35	\$201	<ul style="list-style-type: none"> Stillfront Group, a European gaming studio holdco, has acquired 6Waves, a Japanese game publisher. The cross-sell opportunity of each parties' games in the other's market was central to the acquisition thesis.
1/18/2022			\$83	\$68,700	<ul style="list-style-type: none"> Microsoft has agreed to acquire Activision-Blizzard for ~\$69bn in an all-cash deal representing a 69% premium. The combined entity will be the third-largest game company by revenue, behind only Tencent and Sony.
1/13/2022			\$101	ND	<ul style="list-style-type: none"> Forte, a blockchain gaming platform, has acquired N3twork's technology platform and team. N3twork founder Neil Young will lead Forte's Games Industry business unit.
1/13/2022			ND	\$113	<ul style="list-style-type: none"> Team17, a game developer and publisher, has acquired Astragon, a developer of simulation games. The acquisition represents Team17 entering the mobile and PC simulation game vertical.

Source: PitchBook, Company Announcements, Bizjournals, Businesswire, Casino.org, DigiDay, eSportsInsider, GamesIndustry, Mobidictum, NYT, PocketGamer, PRNewswire, Reuters, TechCrunch, VentureBeat.

Note: All figures in USD millions unless noted otherwise. Deals shown reflect those announced during the quarter ending March 31, 2022.

Digital Content – Q1 2022 Notable Deals (3 / 3)



Announcement Date	Target	Acquirer	Cumulative Capital Raised	Enterprise Value	Commentary
1/10/2022			\$2,121	\$12,700	<ul style="list-style-type: none"> Take-Two Interactive, a video game publisher, will acquire Zynga, a mobile game developer, for \$12.7bn. The deal is expected to deliver ~\$100mm of annual cost synergies and \$500mm+ cross-selling opportunities.
1/6/2022	THE ATHLETIC		\$145	\$550	<ul style="list-style-type: none"> The New York Times has agreed to acquire The Athletic, an online sports news outlet in an all-cash deal. The outlets have 8mm and 1mm subscriptions respectively, and the two will continue to operate independently.
1/6/2022	HELL LET LOOSE 		ND	\$102	<ul style="list-style-type: none"> Team17, a game developer and publisher has acquired HLL's IP, and the Label, an indie game publisher. Team17 hopes to broaden their share of the mobile market with these acquisitions.

Source: PitchBook, Company Announcements, Bizjournals, Businesswire, Casino.org, DigiDay, eSportsInsider, GamesIndustry, Mobidictum, NYT, PocketGamer, PRNewswire, Reuters, TechCrunch, VentureBeat.
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The LUMA Indices Universe at a Glance

 Denotes retroactive additions
 Denotes No Longer Publicly-Traded

Ad Tech



MarTech



Total: 50 Companies

Aggregate Market Cap as of Market Date

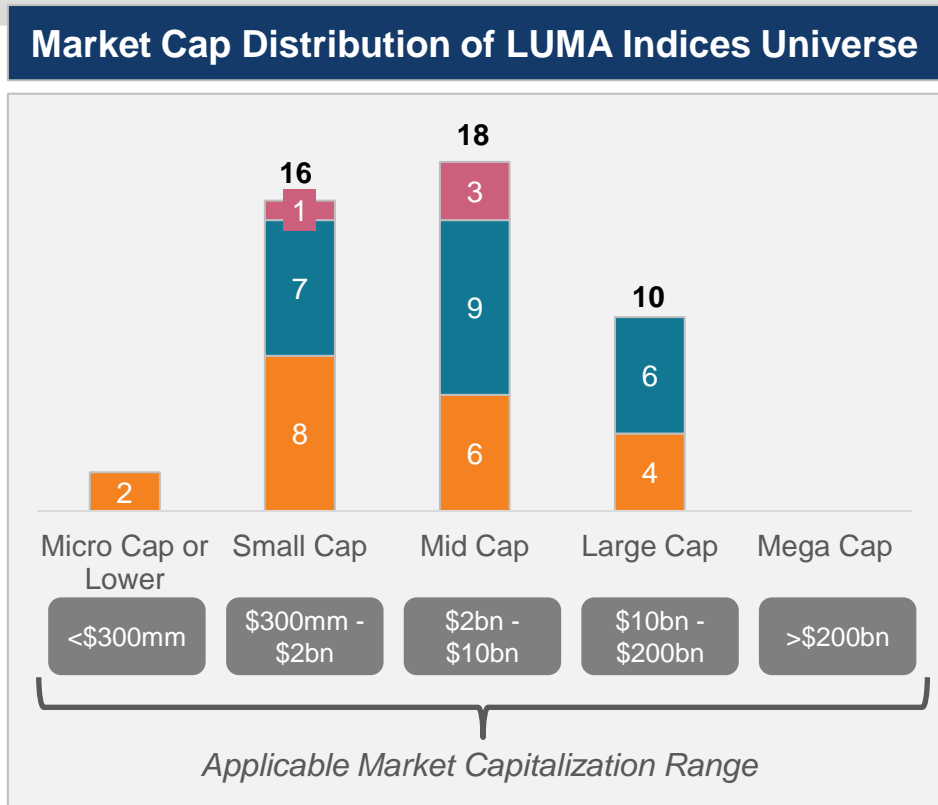
~\$377bn

Aggregate Revenue⁽¹⁾, CY22E (Approximate)


~\$40bn

Average CY22E Revenue⁽¹⁾ Growth Rate

24.2%




Int'l Presence of LUMA Indices Universe



10 Countries Represented

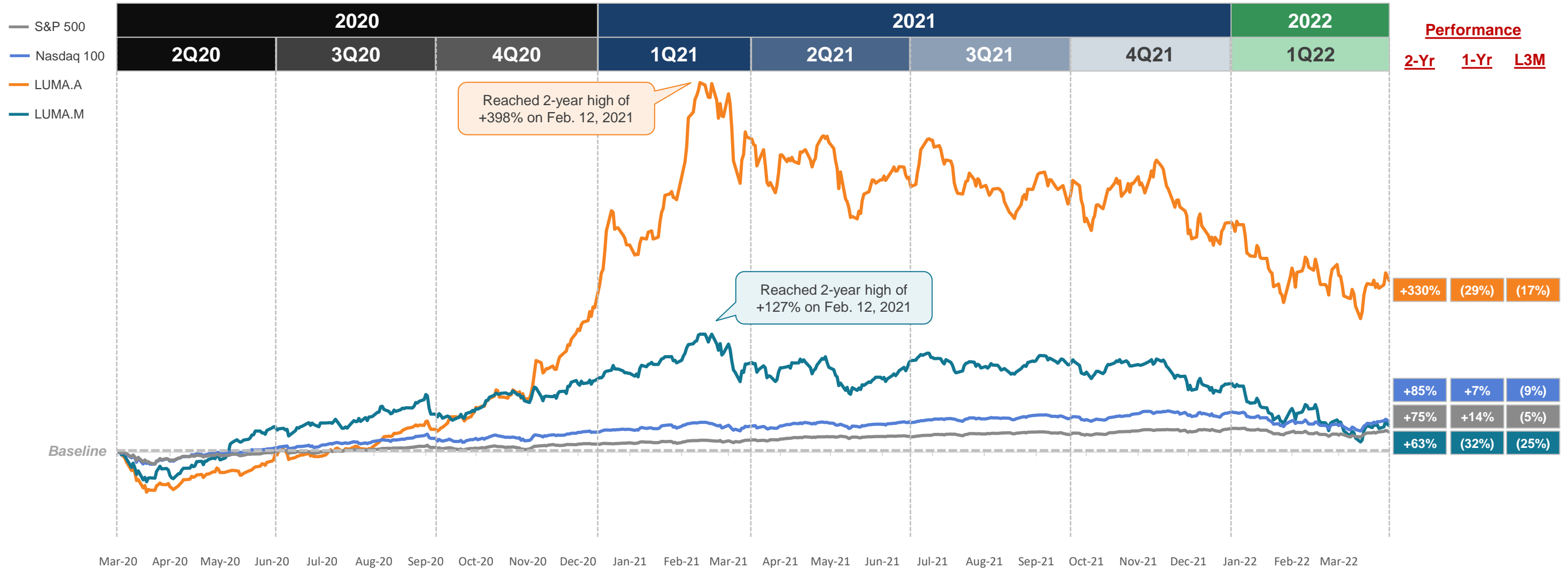
7 Stock Exchanges Represented



Source: FactSet (market data as of March 31, 2022). Note: Revenue Refers to GAAP revenue for MarTech cohort and Net Revenue for Ad Tech cohort. Please Refer to Appendices A and B for more detail on Net Revenue Methodology & Definitions.

Ad Tech and MarTech: Off Their Peaks, But Remain Elevated

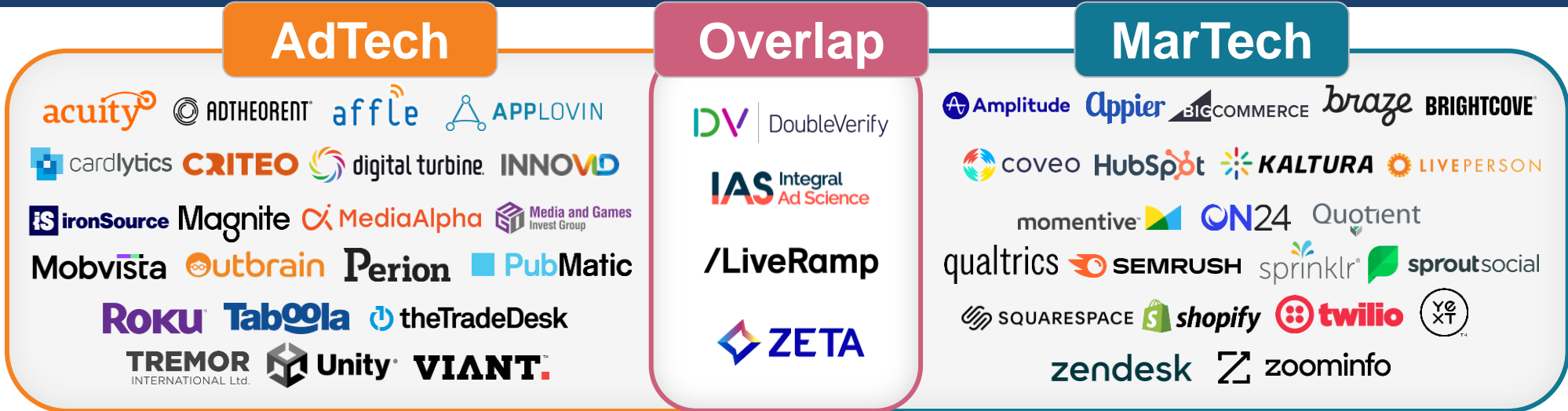
LUMA Indices vs. Nasdaq 100 Index Performance (Q2'2020 – Q1'2022)



While significantly down from the highs of a year ago, Ad Tech and MarTech are still meaningfully elevated relative to pre-pandemic levels

Source: FactSet (market data as of 3/31/2021), LUMA analysis.

Q1 2022 Ad Tech & MarTech Public Valuation Trends



Aggregate Market Cap (as of 3/31/2022)		AdTech ~\$137bn		Overlap ~\$12bn		MarTech ~\$228bn	
Avg. EV / Net Revenue		2021	2022	2021	2022	2021	2022
Current (3/31/22)		9.9x	6.5x	7.6x	6.1x	9.9x	7.6x
12/31/21		12.2x	9.4x	9.8x	7.7x	14.7x	11.2x
EV / Net Revenue % Change (since 12/31/2021)		(18.9%)	(30.9%)	(22.4%)	(20.8%)	(32.7%)	(32.1%)

Sources: FactSet (market data as of 3/31/2022), Company Filings. Note: "Net Revenue" definitions vary by Company depending on disclosures available. When available, "Ex-TAC Revenue" or "Ex-TAC Gross Profit" utilized. Otherwise, each company's Revenue Recognition disclosures are assessed on case-by-case basis to determine whether reported GAAP revenue or Gross Profit is better proxy for Net Revenue. See Appendix A & B for more details.

No New Public Issuances in Q1 Following a Record Year in 2021

	Pre-2020 PubCos	2020 Issuances	2021 Issuances	2022 Issuances	Filed / Pending	2022+ Rumored
Ad Tech				<p>No companies have issued in 2022 amid the Tech sell off</p>		
MarTech						

5 companies + 18 companies
20+ companies going public since 2019

Source: FactSet, Public Company Filings, Company Announcements. Note: [Dashed Box] Denotes formerly public companies. [Dotted Box] Denotes Filed / Pending Transactions via SPAC. Sum figures below graphic do not contemplate removal of former public companies.

Ad Tech – Q1 2022 Market Performance

Ranking – Highest to Lowest Share Price Increase / (Decrease) in %

	Company	Share Price (\$USD)		% Increase	Market Cap (US\$mm)	EV / LTM Net Revenue	
		End of Q4 2021	End of Q1 2022	Q1 % Increase / (Decrease)	End of Q1 2022	End of Q4 2021	End of Q1 2022
1	AdTheorent	\$5.87	\$9.04	+54.0%	\$1,077	5.3x	9.3x
2	Zeta Global	\$8.42	\$12.19	+44.8%	\$3,399	5.1x	7.6x
3	Tremor International	\$7.50	\$8.01	+6.8%	\$1,307	2.9x	3.1x
4	Affle	\$15.17	\$16.18	+6.7%	\$2,214	34.2x	37.6x
5	MediaAlpha	\$15.44	\$16.28	+5.4%	\$1,097	10.8x	11.5x
6	Perion Network	\$24.05	\$23.68	(1.5%)	\$1,069	4.4x	4.0x
7	S&P 500	NA	NA	(2.8%)	NA	NA	NA
8	Cardlytics	\$66.09	\$60.25	(8.8%)	\$1,970	21.5x	17.7x
9	Innovid	\$6.65	\$6.04	(9.2%)	\$763	7.6x	6.7x
10	Magnite	\$17.50	\$14.74	(15.8%)	\$1,866	6.5x	5.2x
11	LiveRamp	\$47.95	\$39.48	(17.7%)	\$2,745	5.8x	4.3x
12	PubMatic	\$34.05	\$27.79	(18.4%)	\$1,499	8.1x	6.0x
13	Acuity Ads	\$3.76	\$3.05	(18.9%)	\$193	3.1x	2.4x
14	Outbrain	\$14.00	\$11.33	(19.1%)	\$647	2.3x	1.6x
15	Media and Games Invest	\$4.87	\$3.93	(19.3%)	\$628	3.2x	2.6x
16	The Trade Desk	\$91.64	\$73.33	(20.0%)	\$34,989	38.2x	28.7x
17	DoubleVerify	\$33.28	\$26.44	(20.6%)	\$3,993	15.2x	11.3x
18	Digital Turbine	\$60.99	\$46.97	(23.0%)	\$4,528	21.0x	15.2x
19	Criteo	\$38.87	\$28.96	(25.5%)	\$1,802	2.4x	1.5x
20	Unity Software	\$142.99	\$103.92	(27.3%)	\$33,047	41.6x	28.3x
21	Taboola	\$7.78	\$5.46	(29.8%)	\$1,423	4.2x	2.7x
22	Mobvista	\$0.88	\$0.61	(30.7%)	\$1,111	10.6x	8.0x
23	Viant	\$9.71	\$6.71	(30.9%)	\$418	4.4x	3.0x
24	ironSource	\$7.74	\$5.31	(31.4%)	\$5,193	14.0x	8.0x
25	Integral Ad Science	\$22.21	\$15.20	(31.6%)	\$2,220	11.7x	7.4x
26	Roku	\$228.20	\$137.56	(39.7%)	\$17,814	11.2x	5.8x
27	AppLovin	\$94.26	\$55.98	(40.6%)	\$21,876	13.7x	8.1x
	Average			(13.5%)		11.9x	9.5x

Source: FactSet (market data as of 12/31/2021 and 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

MarTech – Q1 2022 Market Performance

Ranking – Highest to Lowest Share Price Increase / (Decrease) in %

	Company	Share Price (\$USD)		% Increase Q1 % Increase / (Decrease)	Market Cap (US\$mm) End of Q1 2022	EV / LTM Net Revenue	
		End of Q4 2021	End of Q1 2022			End of Q4 2021	End of Q1 2022
1	Zeta Global	\$8.42	\$12.19	+44.8%	\$3,399	5.1x	7.6x
2	Zendesk	\$104.29	\$121.14	+16.2%	\$14,660	9.6x	11.1x
3	S&P 500	NA	NA	(2.8%)	NA	NA	NA
4	Quotient Technologies	\$7.42	\$7.05	(5.0%)	\$640	1.4x	1.2x
5	Squarespace	\$29.50	\$27.33	(7.4%)	\$3,751	5.9x	5.2x
6	ZoomInfo	\$64.20	\$58.95	(8.2%)	\$24,569	36.6x	34.2x
7	Sprout Social	\$90.69	\$82.26	(9.3%)	\$4,512	26.4x	23.2x
8	Qualtrics	\$35.40	\$29.71	(16.1%)	\$17,719	20.6x	16.6x
9	LiveRamp	\$47.95	\$39.48	(17.7%)	\$2,745	5.8x	4.3x
10	Momentive	\$21.15	\$17.24	(18.5%)	\$2,549	7.6x	5.7x
11	ON24	\$17.35	\$13.91	(19.8%)	\$736	3.1x	1.8x
12	Integral Ad Science	\$33.28	\$26.44	(20.6%)	\$3,993	15.2x	11.3x
13	HubSpot	\$659.15	\$520.60	(21.0%)	\$23,399	25.8x	17.6x
14	Brightcove	\$10.22	\$7.99	(21.8%)	\$350	2.5x	2.0x
15	Sprinklr	\$15.87	\$12.25	(22.8%)	\$3,087	7.3x	5.2x
16	Yext	\$9.92	\$7.46	(24.8%)	\$974	3.3x	2.2x
17	LivePerson	\$35.72	\$25.89	(27.5%)	\$1,863	6.0x	4.1x
18	DoubleVerify	\$22.21	\$15.20	(31.6%)	\$2,220	11.7x	7.4x
19	Twilio	\$263.34	\$174.48	(33.7%)	\$31,275	16.2x	9.6x
20	Coveo	\$13.06	\$8.62	(34.0%)	\$968	15.7x	8.7x
21	BigCommerce	\$35.37	\$23.28	(34.2%)	\$1,715	12.5x	7.5x
22	Appier	\$11.58	\$7.50	(35.2%)	\$847	9.4x	6.4x
23	Braze	\$77.16	\$47.00	(39.1%)	\$4,009	32.2x	16.5x
24	SEMrush	\$20.85	\$12.15	(41.7%)	\$1,747	14.9x	7.9x
25	Kaltura	\$3.37	\$1.93	(42.7%)	\$236	2.1x	0.8x
26	Shopify	\$1,377.39	\$743.98	(46.0%)	\$86,053	36.7x	17.2x
27	Amplitude	\$52.94	\$19.35	(63.4%)	\$2,363	39.7x	12.3x
	Average			(21.6%)		14.4x	9.5x

Source: FactSet (market data as of 12/31/2021 and 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

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LUMA.A – Financial Benchmarking Overview

Observations

- The LUMA.A Index cohort now has 26 active companies with the addition of AdTheorent and Media and Games Invest Group (“MGI”).
- The average Enterprise Value of LUMA.A constituents is \$5.5bn with the largest company being The Trade Desk (\$34.3bn) and the smallest company being Acuity Ads (\$118mm).
- LUMA.A companies have an average '22E Net Revenue of ~\$741mm and trade at an average EV / '22E Net Revenue of 6.5x. Of the LUMA.A companies, Roku and AppLovin are expected to have the highest Revenues in '22E (\$3.7bn).
- The Trade Desk is trading at the highest EV / '22E Net Revenue at 21.7x. Outbrain is trading at the lowest EV / '22E Net Revenue multiple at 1.3x. The average Net Revenue Growth Rate for '22E is 27.2%, a drop from the average '21A Net Revenue Growth Rate of 43.9% during which companies were growing relative to a COVID-affected comparison period.
- LUMA.A companies have an average expected '22E EBITDA Margin of 26.3%.⁽³⁾ AppLovin has the highest '22E EBITDA at \$1.1bn. EBITDA Margins are expected to slightly contract versus the average for '21A EBITDA Margin of 29.1%.

Number of Companies

26

Four overlap with LUMA.M

Average Enterprise Value

\$5.5bn

Average '22E Net Revenue⁽¹⁾

~\$741mm

Average EV / '22E Net Revenue⁽²⁾

6.5x

Average '22E Net Rev. Growth %

+27.2%

Down from +43.9% in 2021A

Average '22E EBITDA Margin %⁽³⁾

26.3%

Source: LUMA, PitchBook, Company announcements. **Note:** Discrepancies between Average 2022E Revenue, Average EV / 2022E Revenue, and Average EV are due to certain companies lacking 2022E revenue estimates (thus being excluded from averages). **(1)** Figure rounded to nearest \$10 million. **(2)** Net Revenue definitions vary by company – see Appendix A for detailed methodology and definitions regarding “Net Revenue” for LUMA.A. **(3)** EBITDA margins calculated on Net Revenue basis – see appendix A for detailed methodology and definitions.

LUMA.A – Summary Valuation Statistics

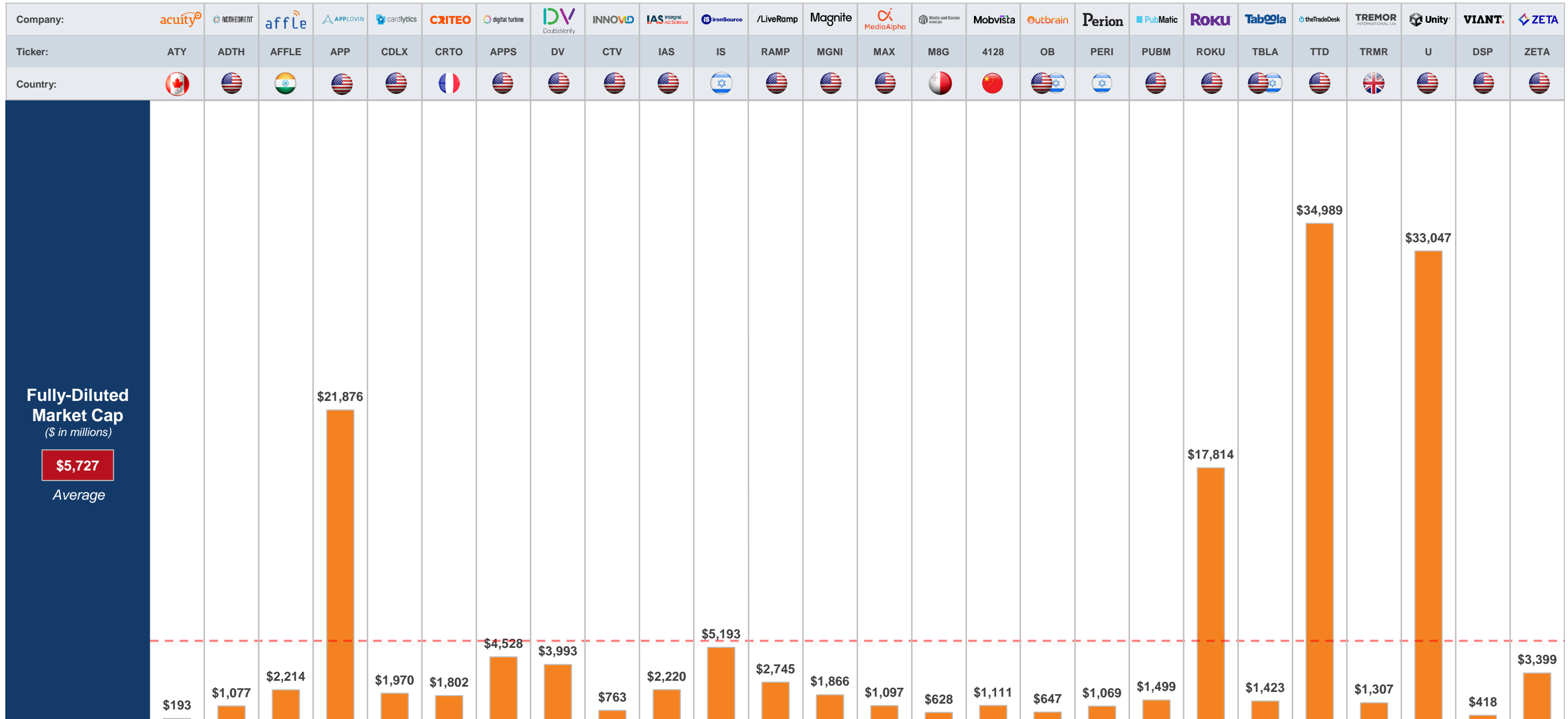
IMPORTANT: FIGURES REFLECT DEFINITIONAL ADJUSTMENTS TO CONFORM TO CUSTOMARY FINANCIAL DEFINITIONS UTILIZED IN THE ADVERTISING TECHNOLOGY SUB-SECTOR. SEE APPENDIX A FOR DETAIL ON METHODOLOGY & DEFINITIONS.

Company	Ticker	Exchange	Share Price	FD Market Cap	Enterprise Value	EV / Net Revenue			EV / EBITDA		
						CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Acuity Ads	ATY	NASDAQ	\$3.15	\$193	\$118	2.4x	2.0x	1.8x	7.4x	6.9x	5.7x
AdTheorent	ADTH	NASDAQ	\$9.84	\$1,077	\$1,015	9.3x	7.5x	5.9x	23.6x	32.0x	21.6x
Affle	AFFLE	BSE	\$16.62	\$2,214	\$2,163	37.6x	NA	NA	NA	NA	NA
AppLovin	APP	NASDAQ	\$55.07	\$21,876	\$22,614	8.1x	6.1x	5.0x	31.1x	21.8x	15.5x
Cardlytics	CDLX	NASDAQ	\$54.98	\$1,970	\$1,865	17.7x	13.7x	10.3x	NM	NM	NM
Criteo	CRTO	NASDAQ	\$27.24	\$1,802	\$1,400	1.5x	1.4x	1.2x	4.3x	4.4x	4.1x
Digital Turbine	APPS	NASDAQ	\$43.81	\$4,528	\$4,770	15.2x	9.7x	6.7x	32.6x	16.6x	10.5x
DoubleVerify	DV	NYSE	\$25.17	\$3,993	\$3,772	11.3x	8.7x	6.9x	34.4x	29.0x	21.6x
Innovid	CTV	NYSE	\$6.04	\$763	\$607	6.7x	5.4x	4.2x	NM	NM	26.4x
Integral Ad Science	IAS	NASDAQ	\$13.80	\$2,220	\$2,390	7.4x	5.7x	4.5x	23.1x	18.2x	14.0x
ironSource	IS	NYSE	\$4.80	\$5,193	\$4,452	8.0x	5.5x	4.3x	22.9x	16.9x	12.9x
LiveRamp	RAMP	NYSE	\$37.39	\$2,745	\$2,252	4.3x	3.6x	2.9x	48.2x	34.4x	20.8x
Magnite	MGNI	NASDAQ	\$13.21	\$1,866	\$2,359	5.2x	4.4x	3.7x	15.5x	13.5x	10.9x
MediaAlpha	MAX	NYSE	\$16.55	\$1,097	\$1,171	11.5x	11.2x	8.7x	20.1x	23.8x	15.0x
Media and Games Invest	M8G	NASDAQ	\$3.74	\$628	\$731	2.6x	2.2x	1.9x	9.1x	7.6x	6.2x
Mobvista	1860	HKG	\$0.68	\$1,111	\$1,042	8.0x	4.9x	3.9x	NA	NA	NA
Outbrain	OB	NASDAQ	\$10.73	\$647	\$427	1.6x	1.3x	1.1x	4.8x	4.1x	3.3x
Perion Network	PERI	NASDAQ	\$22.49	\$1,069	\$760	4.0x	3.1x	2.8x	10.9x	8.4x	7.0x
PubMatic	PUBM	NASDAQ	\$26.12	\$1,499	\$1,361	6.0x	4.8x	3.9x	14.1x	13.3x	10.3x
Roku	ROKU	NASDAQ	\$125.27	\$17,814	\$16,153	5.8x	4.3x	3.3x	34.7x	NM	49.0x
Taboola	TBLA	NASDAQ	\$5.16	\$1,423	\$1,392	2.7x	2.1x	1.8x	7.8x	6.8x	5.8x
The Trade Desk	TTD	NASDAQ	\$69.25	\$34,989	\$34,315	28.7x	21.7x	17.2x	68.3x	57.8x	45.9x
Tremor International	TRMR	LSE	\$7.79	\$1,307	\$939	3.1x	2.7x	2.3x	5.8x	5.6x	4.9x
Unity Software	U	NYSE	\$99.21	\$33,047	\$31,427	28.3x	21.0x	16.3x	NM	NM	NM
Viant	DSP	NASDAQ	\$6.55	\$418	\$420	3.0x	2.4x	2.0x	11.3x	13.9x	9.8x
Zeta Global	ZETA	NYSE	\$12.75	\$3,399	\$3,478	7.6x	6.4x	5.3x	55.0x	42.6x	31.2x
Average						9.5x	6.5x	5.1x	23.1x	18.9x	16.0x
Median						7.1x	4.9x	3.9x	20.1x	15.3x	11.9x
25th Percentile						3.3x	2.7x	2.3x	9.1x	7.4x	6.4x
75th Percentile						10.8x	7.5x	5.9x	32.6x	25.1x	21.4x

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – Valuation Statistics

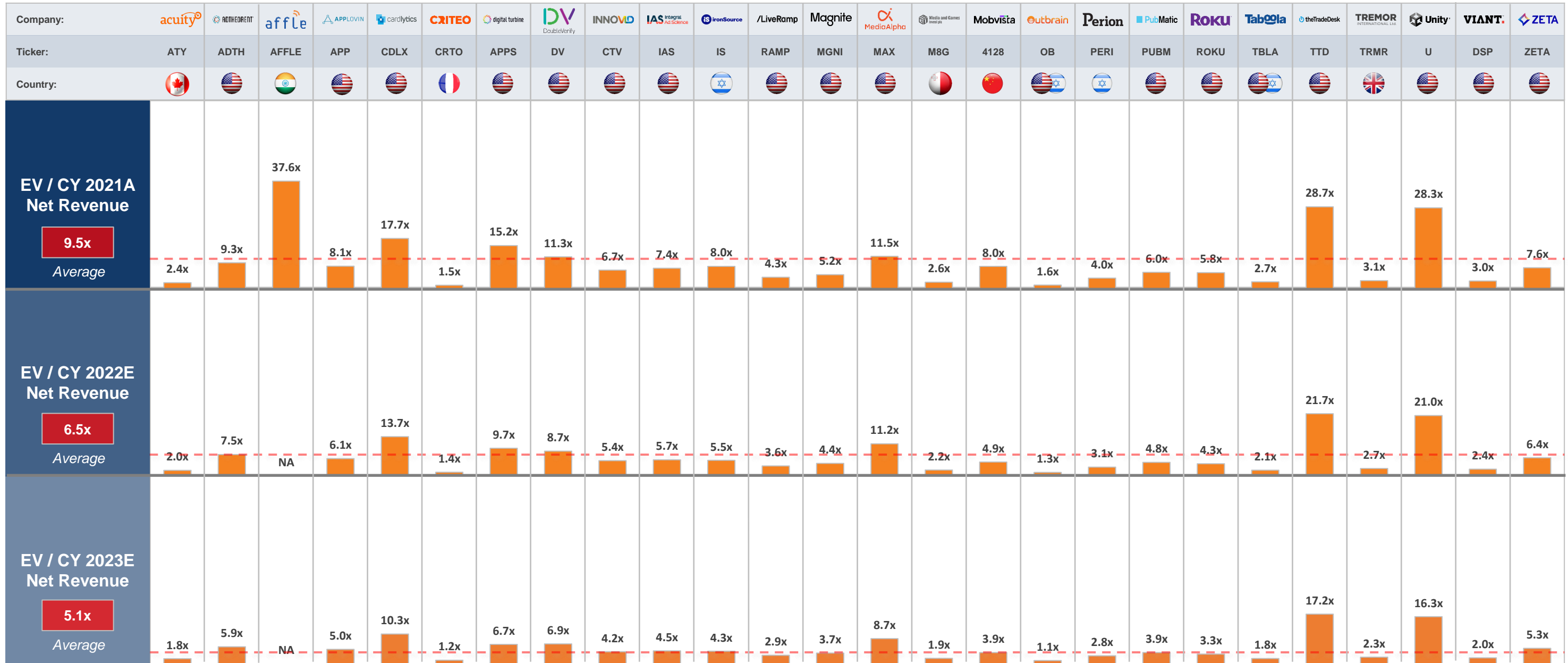
IMPORTANT: FIGURES REFLECT DEFINITIONAL ADJUSTMENTS TO CONFORM TO CUSTOMARY FINANCIAL DEFINITIONS UTILIZED IN THE ADVERTISING TECHNOLOGY SUB-SECTOR. SEE APPENDIX A FOR DETAIL ON METHODOLOGY & DEFINITIONS.



Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – EV / Net Revenue

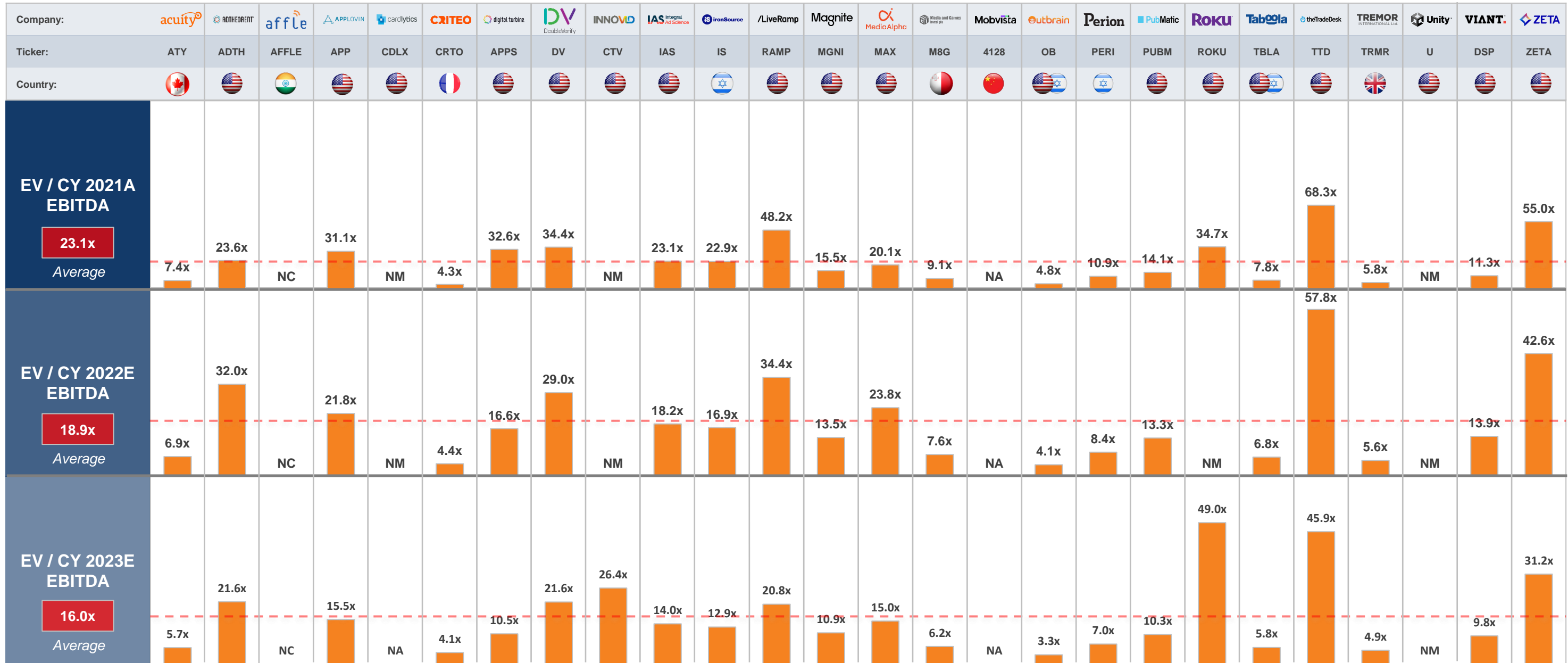
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Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – EV / EBITDA

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Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – Net Revenue

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Company:	acuity	ADTHEORET	affle	APPROVIN	cardlytics	CXITEO	digital turbine	DV DoubleVerify	INNOVD	IAS Integral Ad Science	IronSource	/LiveRamp	Magnite	MediaAlpha	Media and Games	Mobvista	Outbrain	Perion	PubMatic	ROKUU	Taboola	theTradeDesk	TREMOR INTERNATIONAL LLC	Unity	VIAANT	ZETA	
Ticker:	ATY	ADTH	AFFLE	APP	CDLX	CRTO	APPS	DV	CTV	IAS	IS	RAMP	MGNI	MAX	M8G	4128	OB	PERI	PUBM	ROKUU	TBLA	TTD	TRMR	U	DSP	ZETA	
Country:	Canada	USA	India	USA	USA	France	USA	USA	USA	USA	Israel	USA	USA	USA	USA	Czechia	China	USA/Israel	Israel	USA	USA	USA/Israel	USA	UK	USA	USA	USA
CY 2021A Net Revenue (\$ in millions)				\$2,793		\$921	\$313	\$333													\$2,765						
Average	\$50	\$109	\$58		\$105				\$90	\$324	\$553	\$526	\$458	\$102	\$283	\$130	\$272	\$190	\$227			\$519	\$1,196	\$302	\$1,111	\$142	\$458
CY 2022E Net Revenue (\$ in millions)				\$3,696		\$1,007	\$493	\$433													\$3,727						
Average	\$58	\$135	NA		\$136				\$112	\$420	\$811	\$632	\$530	\$104	\$338	NA	\$328	NA	\$284			\$667	\$1,584	\$351	\$1,496	\$171	\$545
CY 2023E Net Revenue (\$ in millions)				\$4,508		\$1,129	\$709	\$549													\$4,865						
Average	\$67	\$172	NA		\$182				\$146	\$535	\$1,030	\$768	\$637	\$135	\$394	\$269	\$389	\$276	\$350			\$777	\$1,998	\$407	\$1,926	\$207	\$651
'22E Growth % YoY	16%	23%	NA	32%	30%	9%	58%	30%	25%	30%	47%	20%	16%	3%	19%	64%	20%	27%	25%		35%	29%	32%	16%	35%	21%	19%
'23E Growth % YoY	16%	28%	NA	22%	33%	12%	44%	27%	30%	27%	27%	22%	20%	29%	16%	26%	19%	14%	23%		31%	17%	26%	16%	29%	20%	19%
'21A - '23E CAGR %	16%	25%	NA	27%	31%	11%	50%	28%	27%	29%	36%	21%	18%	15%	18%	44%	20%	20%	24%		33%	22%	29%	16%	32%	21%	19%

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – EBITDA Margin (NR Basis)⁽¹⁾

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Company:	acuity	ADTHEORNT	affle	APPROVIN	cardlytics	CXITEO	digital turbine	DV DoubleVerify	INNOVD	IAS Integral Ad Science	IronSource	/LiveRamp	Magnite	MediaAlpha	Media and Games	Mobvista	Outbrain	Perion	PubMatic	ROKUU	Taboola	theTradeDesk	TREMOR INTERNATIONAL LLC	Unity	VIANT	ZETA
Ticker:	ATY	ADTH	AFFLE	APP	CDLX	CRTO	APPS	DV	CTV	IAS	IS	RAMP	MGNI	MAX	M8G	4128	OB	PERI	PUBM	ROKUU	TBLA	TTD	TRMR	U	DSP	ZETA
Country:																										
CY 2021A EBITDA Margin Net Revenue Basis 29.1% Average	31.9%	39.3%	NC	26.0%	(11.6%)	35.0%	46.7%	33.0%	6.0%	31.9%	35.1%	8.9%	33.2%	57.3%	28.2%	NA	32.7%	36.5%	42.4%	16.8%	34.6%	42.0%	53.4%	(1.7%)	26.2%	13.8%
	29.3%	23.6%	NC	28.1%	(13.3%)	31.4%	58.3%	30.0%	1.2%	31.2%	32.4%	10.4%	32.9%	47.1%	28.4%	NA	31.7%	37.3%	35.9%	4.6%	30.9%	37.5%	48.0%	0.7%	17.6%	15.0%
CY 2022E EBITDA Margin Net Revenue Basis 26.3% Average	30.7%	27.4%	NC	32.4%	2.7%	30.5%	64.0%	31.9%	15.8%	31.9%	33.5%	14.1%	34.0%	58.1%	30.1%	NA	33.2%	39.3%	37.8%	6.8%	30.7%	37.4%	47.0%	5.8%	20.7%	17.1%
	30.7%	27.4%	NC	32.4%	2.7%	30.5%	64.0%	31.9%	15.8%	31.9%	33.5%	14.1%	34.0%	58.1%	30.1%	NA	33.2%	39.3%	37.8%	6.8%	30.7%	37.4%	47.0%	5.8%	20.7%	17.1%
'21A Change (bps)	271	NA	NA	221	58	460	1440	297	NA	NA	NA	312	1194	(1072)	744	NA	NA	1140	859	839	NA	808	2485	163	(255)	NA
'22E Change (bps)	(257)	(1575)	NA	204	(168)	(365)	1152	(300)	(479)	(71)	(264)	150	(27)	(1022)	18	NA	(96)	79	(650)	(1222)	(370)	(455)	(538)	237	(862)	118
'23E Change (bps)	131	380	NA	430	1599	(86)	575	191	1452	65	107	372	106	1100	176	NA	151	198	185	217	(19)	(4)	(97)	510	309	212

Source: FactSet (market data as of 3/31/2021), Company Filings. Note: EBITDA margins calculated with "Net Revenue" as denominator, and therefore may not correspond to a given company's reported EBITDA margin. "NC" denotes not calculated. See Appendices A and B for details on methodology.

LUMA.A – Summary Financial Statistics

IMPORTANT: FIGURES REFLECT DEFINITIONAL ADJUSTMENTS TO CONFORM TO CUSTOMARY FINANCIAL DEFINITIONS UTILIZED IN THE ADVERTISING TECHNOLOGY SUB-SECTOR. SEE APPENDIX A FOR DETAIL ON METHODOLOGY & DEFINITIONS.

Company	Ticker	Net Revenue			Net Revenue Growth %			EBITDA			EBITDA Margin %		
		CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Acuity Ads	ATY	\$50	\$58	\$67	16.1%	16.0%	15.9%	\$16	\$17	\$21	31.9%	29.3%	23.4%
AdTheorent	ADTH	\$109	\$135	\$172	38.4%	23.2%	27.5%	\$43	\$32	\$47	39.3%	23.6%	NA
Affle	AFFLE	\$58	NA	NA	108.2%	NA	NA	NA	NA	NA	NA	NA	NA
AppLovin	APP	\$2,793	\$3,696	\$4,508	92.5%	32.3%	22.0%	\$727	\$1,037	\$1,459	26.0%	28.1%	92.1%
Cardlytics	CDLX	\$105	\$136	\$182	64.7%	29.5%	33.2%	(\$12)	(\$18)	\$5	(11.6%)	(13.3%)	64.1%
Criteo	CRTO	\$921	\$1,007	\$1,129	11.6%	9.3%	12.2%	\$322	\$316	\$344	35.0%	31.4%	11.6%
Digital Turbine	APPS	\$313	\$493	\$709	35.9%	57.6%	43.7%	\$146	\$287	\$454	46.7%	58.3%	NA
DoubleVerify	DV	\$333	\$433	\$549	36.4%	30.2%	26.6%	\$110	\$130	\$175	33.0%	30.0%	36.4%
Innovid	CTV	\$90	\$112	\$146	31.2%	24.6%	29.7%	\$5	\$1	\$23	6.0%	1.2%	NA
Integral Ad Science	IAS	\$324	\$420	\$535	34.4%	29.7%	27.4%	\$103	\$131	\$170	31.9%	31.2%	NA
ironSource	IS	\$553	\$811	\$1,030	68.1%	46.6%	26.9%	\$194	\$263	\$345	35.1%	32.4%	68.1%
LiveRamp	RAMP	\$526	\$632	\$768	18.8%	20.0%	21.6%	\$47	\$66	\$108	8.9%	10.4%	17.8%
Magnite	MGNI	\$458	\$530	\$637	28.7%	15.8%	20.2%	\$152	\$175	\$217	33.2%	32.9%	NA
MediaAlpha	MAX	\$102	\$104	\$135	18.9%	2.8%	29.2%	\$58	\$49	\$78	57.3%	47.1%	NA
Media and Games Invest	M8G	\$283	\$338	\$394	67.3%	19.5%	16.4%	\$80	\$96	\$119	28.2%	28.4%	NA
Mobvista	1860	\$130	\$213	\$269	58.5%	63.8%	26.3%	NA	NA	NA	NA	NA	NA
Outbrain	OB	\$272	\$328	\$389	40.0%	20.4%	18.7%	\$89	\$104	\$129	32.7%	31.7%	40.0%
Perion Network	PERI	\$190	\$241	\$276	46.1%	26.7%	14.4%	\$70	\$90	\$109	36.5%	37.3%	56.9%
PubMatic	PUBM	\$227	\$284	\$350	52.6%	25.4%	23.2%	\$96	\$102	\$132	42.4%	35.9%	NA
Roku	ROKU	\$2,765	\$3,727	\$4,865	55.5%	34.8%	30.6%	\$465	\$172	\$330	16.8%	4.6%	55.5%
Taboola	TBLA	\$519	\$667	\$777	35.7%	28.5%	16.6%	\$179	\$206	\$239	34.6%	30.9%	NA
The Trade Desk	TTD	\$1,196	\$1,584	\$1,998	43.1%	32.4%	26.2%	\$503	\$593	\$748	42.0%	37.5%	43.1%
Tremor International	TRMR	\$302	\$351	\$407	42.5%	16.2%	16.0%	\$161	\$168	\$191	53.4%	48.0%	NA
Unity Software	U	\$1,111	\$1,496	\$1,926	43.8%	34.7%	28.8%	(\$18)	\$11	\$112	(1.7%)	0.7%	NA
Viant	DSP	\$142	\$171	\$207	28.1%	21.1%	20.5%	\$37	\$30	\$43	26.2%	17.6%	NA
Zeta Global	ZETA	\$458	\$545	\$651	24.5%	19.0%	19.4%	\$63	\$82	\$111	13.8%	15.0%	NA
Average					43.9%	27.2%	23.7%				29.1%	26.3%	46.3%
Median					39.2%	25.4%	23.2%				32.8%	30.4%	43.1%
25th Percentile					29.3%	19.5%	18.7%				23.7%	16.9%	29.9%
75th Percentile					54.7%	32.3%	27.5%				37.2%	33.7%	60.5%

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.A – Summary Financial Statistics

IMPORTANT: FIGURES REFLECT DEFINITIONAL ADJUSTMENTS TO CONFORM TO CUSTOMARY FINANCIAL DEFINITIONS UTILIZED IN THE ADVERTISING TECHNOLOGY SUB-SECTOR. SEE APPENDIX A FOR DETAIL ON METHODOLOGY & DEFINITIONS.

Company	Ticker	R&D Expense % of Net Revenue			G&A Expense % of Net Revenue			S&M Expense % of Net Revenue		
		CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Acuity Ads	ATY	20.0%	18.5%	18.4%	13.9%	13.6%	13.2%	35.1%	39.6%	40.9%
AdTheorent	ADTH	11.3%	13.0%	11.6%	32.4%	16.6%	14.5%	35.5%	37.4%	35.2%
Affle	AFFLE	NA	NA	NA	NA	NA	NA	NA	NA	NA
AppLovin	APP	10.9%	12.1%	11.4%	3.8%	3.8%	3.6%	39.1%	37.6%	36.0%
Cardlytics	CDLX	26.4%	32.4%	28.3%	39.9%	42.7%	35.9%	49.6%	56.1%	48.2%
Criteo	CRTO	16.5%	16.4%	16.0%	16.6%	15.1%	14.4%	35.4%	34.9%	34.3%
Digital Turbine	APPS	21.9%	16.1%	14.5%	45.9%	30.8%	NA	20.1%	15.4%	13.8%
DoubleVerify	DV	17.5%	18.9%	18.0%	15.9%	14.1%	13.3%	21.3%	21.4%	20.8%
Innovid	CTV	21.9%	16.1%	14.5%	45.9%	30.8%	NA	20.1%	15.4%	13.8%
Integral Ad Science	IAS	19.0%	18.2%	17.5%	19.6%	15.5%	14.6%	24.4%	23.2%	23.2%
ironSource	IS	16.4%	13.7%	14.0%	14.9%	12.0%	11.2%	37.7%	35.1%	34.1%
LiveRamp	RAMP	25.0%	24.3%	24.0%	16.5%	15.8%	14.6%	29.4%	28.9%	27.7%
Magnite	MGNI	13.7%	19.2%	17.2%	11.7%	14.8%	14.4%	33.8%	30.1%	28.7%
MediaAlpha	MAX	15.0%	14.9%	12.4%	60.4%	57.5%	49.1%	22.5%	21.7%	19.9%
Media and Games Invest	M8G	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mobvista	1860	NA	NA	NA	NA	NA	NA	NA	NA	NA
Outbrain	OB	14.3%	14.6%	14.1%	26.0%	19.2%	19.2%	35.2%	32.5%	31.1%
Perion Network	PERI	18.5%	16.7%	16.4%	11.0%	12.3%	11.7%	27.9%	23.7%	23.7%
PubMatic	PUBM	7.0%	8.3%	8.3%	15.8%	16.3%	15.7%	25.6%	28.2%	27.0%
Roku	ROKU	16.7%	21.1%	21.1%	9.3%	10.2%	10.0%	16.5%	21.5%	20.9%
Taboola	TBLA	22.7%	22.9%	21.4%	25.1%	17.3%	14.7%	39.7%	34.9%	33.0%
The Trade Desk	TTD	14.1%	16.9%	16.8%	13.5%	20.2%	16.3%	16.6%	18.8%	18.8%
Tremor International	TRMR	6.1%	7.7%	7.8%	21.0%	19.3%	14.7%	24.7%	26.1%	25.3%
Unity Software	U	42.9%	50.3%	47.8%	18.7%	18.7%	17.5%	23.1%	25.9%	25.0%
Viant	DSP	9.2%	10.8%	12.2%	20.6%	22.2%	20.6%	27.8%	35.4%	34.1%
Zeta Global	ZETA	42.9%	50.3%	47.8%	18.7%	18.7%	17.5%	23.1%	25.9%	25.0%
Average		18.7%	19.7%	18.7%	22.5%	19.9%	17.0%	28.9%	29.1%	27.9%
Median		16.7%	16.7%	16.4%	18.7%	16.6%	14.6%	27.8%	28.2%	27.0%
25th Percentile		13.9%	14.1%	13.2%	14.4%	14.4%	13.3%	22.8%	22.4%	22.0%
75th Percentile		21.9%	20.1%	19.7%	25.5%	19.7%	17.5%	35.3%	35.0%	34.1%

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

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LUMA.M – Financial Benchmarking Overview

Observations

- The LUMA.M Index cohort now has 26 companies, with the addition of the eleven new public entrants during 2021.
- The average Enterprise Value of LUMA.M constituents is \$8.8bn with the largest company being Shopify (\$79.4bn) and the smallest company being Kaltura (\$136mm).
- LUMA.M companies have an average '22E Revenue of \$895mm at an average EV / '22 Revenue of 7.8x. Of the LUMA.M companies, Shopify is expected to have the highest Revenue in '22E (\$6.1bn).
- ZoomInfo is trading at the highest EV / '22E Revenue at 25.0x. Kaltura is trading at the lowest EV / '22E Revenue multiple at 0.8x. The average Revenue Growth Rate for '22E is 21.8% a significant drop from the average '21A Revenue Growth Rate of 35.5% during which companies were growing relative to a COVID-affected comparison period.
- LUMA.M companies have an average '22E EBITDA of \$76mm at an average '22E EBITDA Margin of 2.9%. Shopify has the highest '22E EBITDA at \$457mm. Average EBITDA Margins are expected to drop as the average '21A EBITDA Margin was 6.6% of revenue, versus the average '22E EBITDA Margin of 2.9% of revenue.

Number of Companies

26

Four overlap with LUMA.M

Average Enterprise Value

\$8.8bn

Average '22E Net Revenue⁽¹⁾

~\$900mm

Average EV / '22E Revenue

7.4x

Average '22E Revenue Growth %

+21.8%

Down from +35.5% in 2021A

Average '22E EBITDA Margin %

2.9%

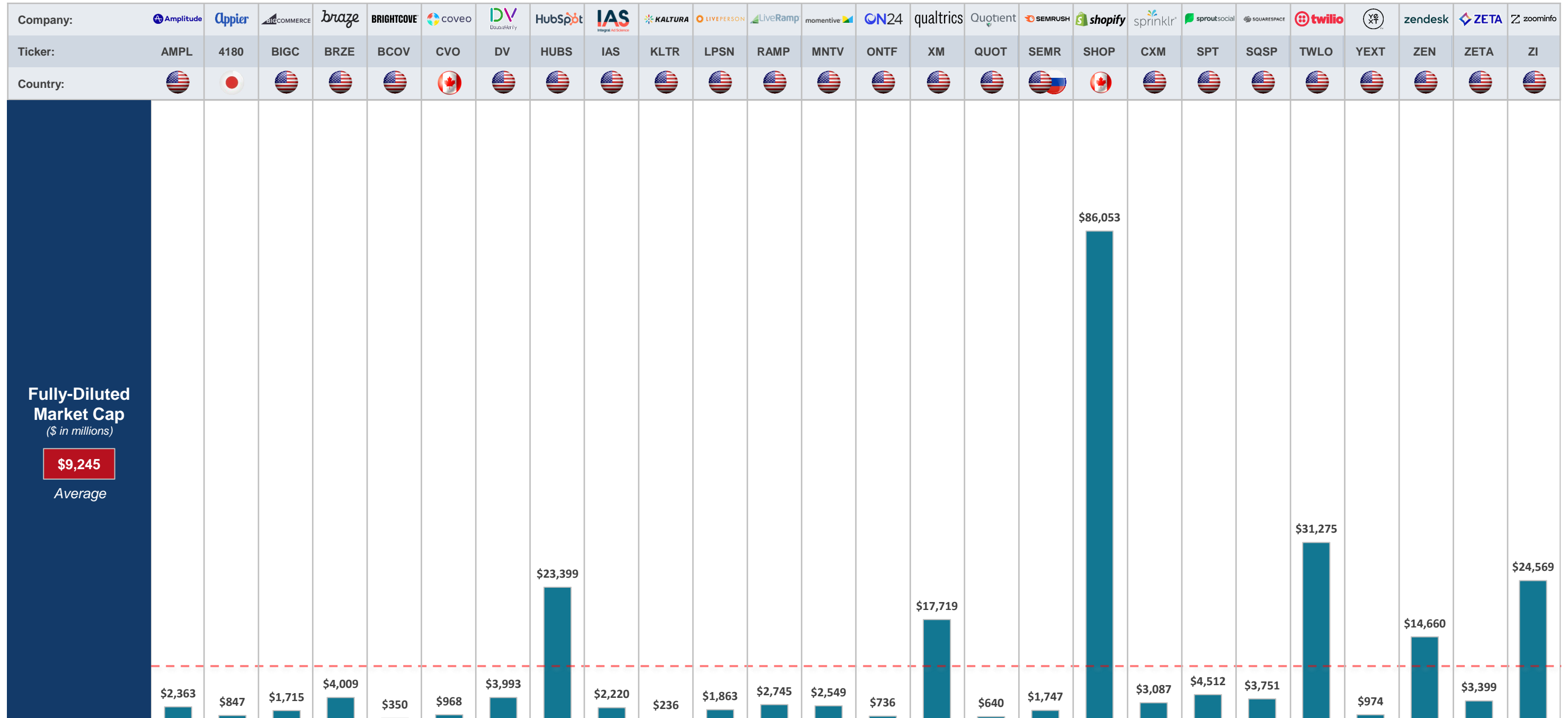
Source: LUMA, PitchBook, Company announcements. Note: Discrepancies between Average 2022E Revenue, Average EV / 2022E Revenue, and Average EV are due to certain companies lacking 2022E revenue estimates (thus being excluded from averages). (1) Figure rounded to nearest \$10 million.

LUMA.M – Summary Valuation Statistics

Company	Ticker	Exchange	Share	FD	Enterprise	EV / Net Revenue			EV / EBITDA		
			Price	Market Cap	Value	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Amplitude	AMPL	NASDAQ	\$18.43	\$2,363	\$2,056	12.3x	8.9x	6.6x	NM	NM	NM
Appier	4180	TYO	\$8.37	\$847	\$705	6.4x	5.2x	3.8x	NA	NA	NA
BigCommerce	BIGC	NASDAQ	\$21.91	\$1,715	\$1,655	7.5x	5.9x	4.9x	NM	NM	NM
Braze	BRZE	NASDAQ	\$41.47	\$4,009	\$3,932	16.5x	11.6x	8.5x	NM	NM	NM
Brightcove	BCOV	NASDAQ	\$7.80	\$350	\$421	2.0x	2.0x	1.9x	17.4x	26.1x	18.8x
Coveo	CVO	TSE	\$8.09	\$968	\$734	8.7x	6.7x	5.3x	NM	NM	NM
Double Verify	DV	NYSE	\$25.17	\$3,993	\$3,772	11.3x	8.7x	6.9x	34.4x	29.0x	21.6x
Hubspot	HUBS	NYSE	\$474.94	\$23,399	\$22,914	17.6x	13.3x	10.4x	NM	NM	NM
Integral Ad Science	IAS	NASDAQ	\$13.80	\$2,220	\$2,390	7.4x	5.7x	4.5x	23.1x	18.2x	14.0x
Kaltura	KLTR	NASDAQ	\$1.79	\$236	\$136	0.8x	0.8x	0.7x	NM	NM	NM
LivePerson	LPSN	NASDAQ	\$24.42	\$1,863	\$1,922	4.1x	3.5x	2.9x	65.9x	NM	49.8x
LiveRamp	RAMP	NYSE	\$37.39	\$2,745	\$2,252	4.3x	3.6x	2.9x	48.2x	34.4x	20.8x
Momentive	MNTV	NASDAQ	\$16.26	\$2,549	\$2,531	5.7x	5.1x	4.4x	61.3x	54.4x	33.5x
ON24	ONTF	NYSE	\$13.15	\$736	\$368	1.8x	1.8x	1.6x	55.4x	NM	NM
Qualtrics	XM	NASDAQ	\$28.55	\$17,719	\$17,871	16.6x	12.7x	10.4x	NM	NM	NM
Quotient	QUOT	NYSE	\$6.38	\$640	\$618	1.2x	1.5x	1.3x	15.2x	16.9x	8.0x
SEMrush	SEMR	NYSE	\$11.94	\$1,747	\$1,489	7.9x	6.1x	4.9x	NM	NM	NM
Shopify	SHOP	TSE	\$675.96	\$86,053	\$79,459	17.2x	13.1x	9.9x	NM	NM	NM
Sprinklr	CXM	NYSE	\$11.90	\$3,087	\$2,545	5.2x	4.3x	3.6x	NM	NM	NM
SproutSocial	SPT	NASDAQ	\$80.12	\$4,512	\$4,358	23.2x	17.5x	13.4x	NM	NM	NM
Squarespace	SQSP	NYSE	\$25.62	\$3,751	\$4,077	5.2x	4.7x	4.0x	32.6x	29.5x	24.9x
Twilio	TWLO	NYSE	\$164.81	\$31,275	\$27,166	9.6x	7.1x	5.5x	NM	NM	67.6x
Yext	YEXT	NYSE	\$6.89	\$974	\$845	2.2x	2.1x	1.9x	NM	NM	NM
Zendesk	ZEN	NYSE	\$120.29	\$14,660	\$14,848	11.1x	8.8x	7.0x	NM	NM	57.3x
Zeta	ZETA	NYSE	\$12.75	\$3,399	\$3,478	7.6x	6.4x	5.3x	55.0x	42.6x	31.2x
ZoomInfo	ZI	NASDAQ	\$59.74	\$24,569	\$25,545	34.2x	25.0x	19.1x	NM	60.2x	44.0x
Average						9.5x	7.4x	5.8x	40.9x	34.6x	32.6x
Median						7.6x	6.0x	4.9x	41.3x	29.5x	28.0x
25th Percentile						4.5x	3.8x	3.1x	25.5x	26.1x	20.3x
75th Percentile						12.1x	8.8x	7.0x	55.3x	42.6x	45.4x

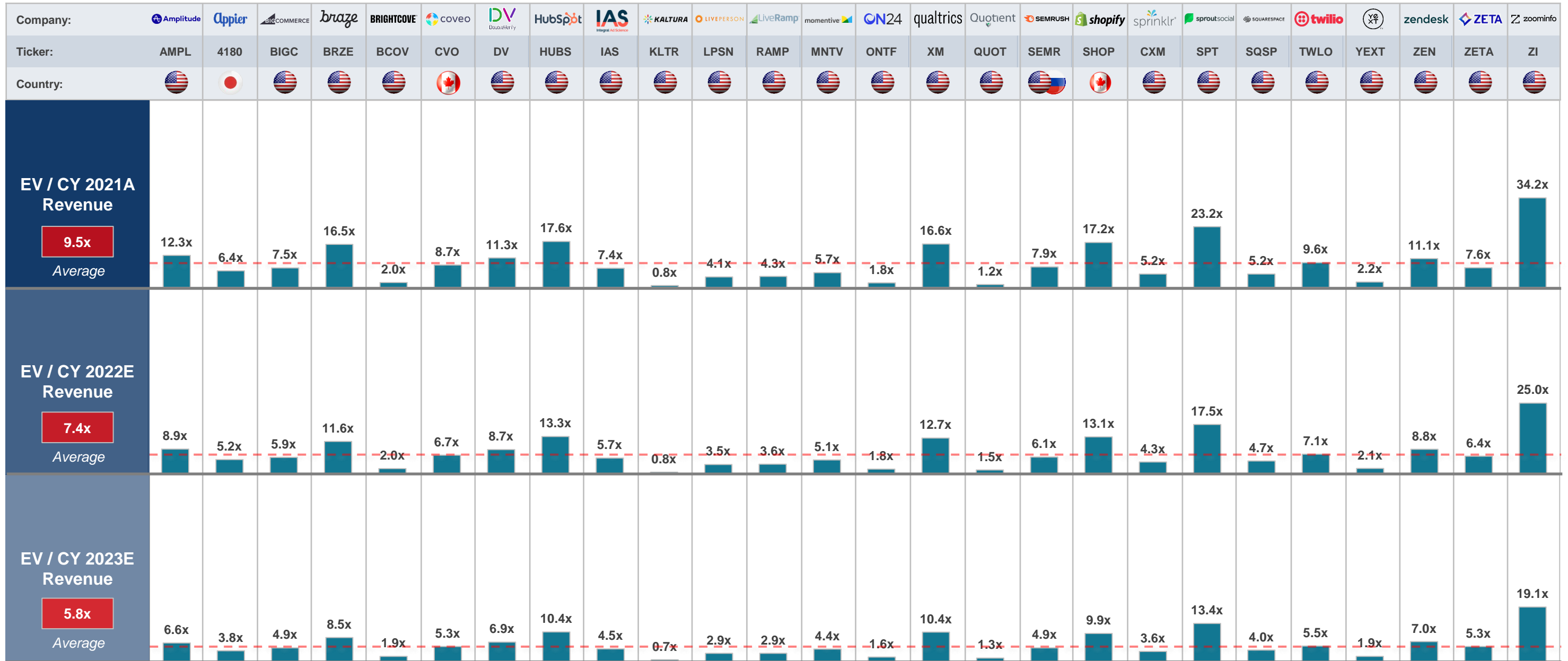
Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – Valuation Statistics



Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – EV / Revenue



Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – EV / EBITDA

Company:																												
Ticker:	AMPL	4180	BIGC	BRZE	BCOV	CVO	DV	HUBS	IAS	KLTR	LPSN	RAMP	MNTV	ONTF	XM	QUOT	SEMR	SHOP	CXM	SPT	SQSP	TWLO	YEXT	ZEN	ZETA	ZI		
Country:																												
EV / CY 2021A EBITDA	<div style="background-color: #003366; color: white; padding: 5px; display: inline-block;">40.9x</div> <i>Average</i>																											
	NM	NM	NM	NM	17.4x	NM	34.4x	NM	23.1x	NM	65.9x	48.2x	61.3x	55.4x	NM	15.2x	NM	NM	NM	NM	32.6x	NM	NM	NM	55.0x	0.0x		
EV / CY 2022E EBITDA	<div style="background-color: #003366; color: white; padding: 5px; display: inline-block;">34.6x</div> <i>Average</i>																											
	NM	NM	NM	NM	26.1x	NM	29.0x	NM	18.2x	NM	34.4x	54.4x	34.4x	NM	NM	16.9x	NM	NM	NM	NM	29.5x	NM	NM	NM	42.6x	60.2x		
EV / CY 2023E EBITDA	<div style="background-color: #003366; color: white; padding: 5px; display: inline-block;">32.6x</div> <i>Average</i>																											
	NM	NM	NM	NM	18.8x	NM	21.6x	NM	14.0x	NM	49.8x	20.8x	33.5x	NM	NM	8.0x	NM	NM	NM	NM	24.9x	67.6x	NM	57.3x	31.2x	44.0x		

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – Revenue

Company:																										
Ticker:	AMPL	4180	BIGC	BRZE	BCOV	CVO	DV	HUBS	IAS	KLTR	LPSN	RAMP	MNTV	ONTF	XM	QUOT	SEMR	SHOP	CXM	SPT	SQSP	TWLO	YEXT	ZEN	ZETA	ZI
Country:																										
CY 2021A Revenue (\$ in millions) \$499 Average	\$167	\$109	\$220	\$238	\$211	\$85	\$333	\$1,301	\$324	\$165	\$470	\$526	\$444	\$204	\$1,076	\$521	\$188	\$4,612	\$487	\$188	\$784	\$2,842	\$391	\$1,339	\$458	\$747
CY 2022E Revenue (\$ in millions) \$709 Average	\$232	\$137	\$279	\$340	\$210	\$110	\$433	\$1,727	\$420	\$176	\$554	\$632	\$500	\$202	\$1,406	\$399	\$245	\$6,059	\$589	\$250	\$871	\$3,842	\$405	\$1,693	\$545	\$1,023
CY 2023E Revenue (\$ in millions) \$895 Average	\$312	\$183	\$339	\$464	\$223	\$138	\$549	\$2,204	\$535	\$202	\$656	\$768	\$569	\$226	\$1,726	\$471	\$307		\$711	\$326	\$1,007		\$444	\$2,114	\$651	\$1,336
'22E Growth % YoY	39%	25%	27%	43%	(0%)	29%	30%	33%	30%	7%	18%	20%	13%	(1%)	31%	(23%)	30%	31%	21%	33%	11%	35%	4%	26%	19%	37%
'23E Growth % YoY	34%	34%	22%	36%	6%	26%	27%	28%	27%	15%	18%	22%	14%	12%	23%	18%	25%	33%	21%	31%	16%	29%	9%	25%	19%	31%
'21A - '23E CAGR %	37%	29%	24%	40%	3%	28%	28%	30%	29%	11%	18%	21%	13%	5%	27%	(5%)	28%	32%	21%	32%	13%	32%	7%	26%	19%	34%

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – EBITDA Margin

Company:																											
Ticker:	AMPL	4180	BIGC	BRZE	BCOV	CVO	DV	HUBS	IAS	KLTR	LPSN	RAMP	MNTV	ONTF	XM	QUOT	SEMR	SHOP	CXM	SPT	SQSP	TWLO	YEXT	ZEN	ZETA	ZI	
Country:																											
CY 2021A EBITDA Margin	(7.9%)	NA	(9.1%)	(12.8%)	11.5%	(26.7%)	33.0%	12.5%	31.9%	(7.4%)	6.2%	8.9%	9.3%	3.3%	5.9%	7.8%	2.0%	16.5%	(10.4%)	(1.1%)	16.0%	9.2%	0.1%	10.3%	13.8%	42.7%	
6.6% Average																											
CY 2022E EBITDA Margin	(19.8%)	NA	(15.6%)		7.7%		30.0%	12.7%	31.2%	(18.0%)	(2.5%)	10.4%	9.3%	(12.1%)	4.2%	9.2%		7.5%	(6.6%)	(0.1%)	15.9%	6.7%	0.1%	10.6%	15.0%	41.4%	
2.9% Average																											
CY 2023E EBITDA Margin	(16.0%)	NA	(8.1%)	(17.3%)	10.0%		31.9%	13.5%	31.9%	(11.3%)	5.9%	14.1%	13.3%	(6.2%)	6.8%	16.3%		9.5%	(3.0%)	2.3%	16.3%	8.1%	0.2%	12.3%	17.1%	43.5%	
6.7% Average																											
'21A Change (bps)	NA	NA	698	NA	107	NA	297	(17)	NA	NA	(414)	312	(279)	(1438)	653	(253)	602	(5)	(1044)	1250	(283)	(134)	331	(74)	NA	(657)	
'22E Change (bps)	(1193)	NA	(650)	(1496)	(380)	(344)	(300)	18	(71)	(1057)	(868)	150	1	(1538)	(175)	138	(910)	(900)	387	105	(7)	(249)	4	23	118	(129)	
'23E Change (bps)	386	NA	749	1049	238	816	191	79	65	669	835	372	398	587	261	713	634	191	359	232	40	140	7	171	212	206	

Source: FactSet (market data as of 3/31/2022), Company Filings. Note: EBITDA margins calculated with "Net Revenue" as denominator, and therefore may not correspond to a given company's reported EBITDA margin. "NC" denotes not calculated. See Appendices A and B for details on methodology.

LUMA.M – Summary Financial Statistics

Company	Ticker	Net Revenue			Net Revenue Growth %			EBITDA			EBITDA Margin %		
		CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Amplitude	AMPL	\$167	\$167	\$232	63.2%	38.7%	34.4%	(\$13)	(\$46)	(\$50)	(7.9%)	(19.8%)	(16.0%)
Appier	4180	\$109	\$109	\$137	30.4%	24.9%	34.0%	NA	NA	NA	NA	NA	NA
BigCommerce	BIGC	\$220	\$220	\$279	44.3%	26.8%	21.8%	(\$20)	(\$44)	(\$28)	(9.1%)	(15.6%)	(8.1%)
Braze	BRZE	\$238	\$238	\$340	58.5%	43.0%	36.4%	(\$31)	(\$95)	(\$80)	(12.8%)	(27.8%)	(17.3%)
Brightcove	BCOV	\$211	\$211	\$210	7.0%	(0.4%)	6.1%	\$24	\$16	\$22	11.5%	7.7%	10.0%
Coveo	CVO	\$85	\$85	\$110	30.9%	29.0%	26.1%	(\$23)	(\$33)	(\$30)	(26.7%)	(30.1%)	(22.0%)
Double Verify	DV	\$333	\$333	\$433	36.4%	30.2%	26.6%	\$110	\$130	\$175	33.0%	30.0%	31.9%
Hubspot	HUBS	\$1,301	\$1,301	\$1,727	47.3%	32.8%	27.6%	\$163	\$219	\$297	12.5%	12.7%	13.5%
Integral Ad Science	IAS	\$324	\$324	\$420	34.4%	29.7%	27.4%	\$103	\$131	\$170	31.9%	31.2%	31.9%
Kaltura	KLTR	\$165	\$165	\$176	37.0%	6.6%	15.0%	(\$12)	(\$32)	(\$23)	(7.4%)	(18.0%)	(11.3%)
LivePerson	LPSN	\$470	\$470	\$554	28.1%	18.0%	18.5%	\$29	(\$14)	\$39	6.2%	(2.5%)	5.9%
LiveRamp	RAMP	\$526	\$526	\$632	18.8%	20.0%	21.6%	\$47	\$66	\$108	8.9%	10.4%	14.1%
Momentive	MNTV	\$444	\$444	\$500	18.2%	12.7%	13.8%	\$41	\$47	\$76	9.3%	9.3%	13.3%
ON24	ONTF	\$204	\$204	\$202	29.7%	(0.7%)	11.6%	\$7	(\$24)	(\$14)	3.3%	(12.1%)	(6.2%)
Qualtrics	XM	\$1,076	\$1,076	\$1,406	40.9%	30.7%	22.8%	\$64	\$59	\$117	5.9%	4.2%	6.8%
Quotient	QUOT	\$521	\$521	\$399	17.0%	(23.5%)	18.1%	\$41	\$37	\$77	7.8%	9.2%	16.3%
SEMrush	SEMR	\$188	\$188	\$245	50.5%	30.3%	25.2%	\$4	(\$17)	(\$2)	2.0%	(7.1%)	(0.7%)
Shopify	SHOP	\$4,612	\$4,612	\$6,059	57.4%	31.4%	32.8%	\$763	\$457	\$761	16.5%	7.5%	9.5%
Sprinklr	CXM	\$487	\$487	\$589	26.0%	20.8%	20.7%	(\$51)	(\$39)	(\$21)	(10.4%)	(6.6%)	(3.0%)
SproutSocial	SPT	\$188	\$188	\$250	41.3%	32.9%	30.8%	(\$2)	(\$0)	\$7	(1.1%)	(0.1%)	2.3%
Squarespace	SQSP	\$784	\$784	\$871	26.2%	11.2%	15.5%	\$125	\$138	\$164	16.0%	15.9%	16.3%
Twilio	TWLO	\$2,842	\$2,842	\$3,842	61.3%	35.2%	29.2%	\$261	\$257	\$402	9.2%	6.7%	8.1%
Yext	YEXT	\$391	\$391	\$405	10.1%	3.8%	9.4%	\$0	\$0	\$1	0.1%	0.1%	0.2%
Zendesk	ZEN	\$1,339	\$1,339	\$1,693	30.0%	26.5%	24.9%	\$138	\$179	\$259	10.3%	10.6%	12.3%
Zeta	ZETA	\$458	\$458	\$545	24.5%	19.0%	19.4%	\$63	\$82	\$111	13.8%	15.0%	17.1%
ZoomInfo	ZI	\$747	\$747	\$1,023	56.9%	37.0%	30.5%	\$319	\$424	\$581	42.7%	41.4%	43.5%
Average					35.6%	21.8%	23.1%				6.6%	2.9%	6.7%
Median					32.7%	26.6%	23.8%				7.8%	6.7%	8.1%
25th Percentile					26.0%	14.0%	18.2%				(1.1%)	(7.1%)	(3.0%)
75th Percentile					46.5%	31.2%	28.8%				12.5%	10.6%	14.1%

Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

LUMA.M – Summary Financial Statistics

Company	Ticker	R&D Expense % of Net Revenue			G&A Expense % of Net Revenue			S&M Expense % of Net Revenue		
		CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E	CY2021A	CY2022E	CY2023E
Amplitude	AMPL	19.0%	21.7%	21.1%	15.3%	16.2%	14.4%	45.6%	53.1%	51.2%
Appier	4180	NA	13.6%	14.8%	NA	10.7%	10.8%	NA	33.3%	33.8%
BigCommerce	BIGC	26.6%	28.4%	26.3%	21.3%	22.8%	20.6%	41.4%	44.8%	42.2%
Braze	BRZE	18.3%	21.2%	19.5%	16.3%	18.0%	15.2%	46.7%	50.5%	44.7%
Brightcove	BCOV	14.2%	15.9%	15.2%	11.8%	12.5%	12.0%	31.5%	36.1%	33.5%
Coveo	CVO	29.5%	32.1%	29.8%	36.2%	19.9%	17.7%	50.3%	48.6%	46.1%
Double Verify	DV	17.5%	18.9%	18.0%	15.9%	14.1%	13.3%	21.3%	21.4%	20.8%
Hubspot	HUBS	18.3%	18.5%	18.4%	8.9%	8.8%	8.6%	44.6%	45.1%	45.1%
Integral Ad Science	IAS	19.0%	18.2%	17.5%	19.6%	15.5%	14.6%	24.4%	23.2%	23.2%
Kaltura	KLTR	27.6%	29.7%	27.8%	17.3%	20.3%	19.2%	26.2%	33.2%	31.7%
LivePerson	LPSN	33.7%	31.0%	28.0%	16.3%	14.4%	12.1%	35.2%	36.5%	33.3%
LiveRamp	RAMP	25.0%	24.3%	24.0%	16.5%	15.8%	14.6%	29.4%	28.9%	27.7%
Momentive	MNTV	21.9%	21.9%	21.3%	15.5%	15.0%	14.0%	43.9%	42.5%	40.7%
ON24	ONTF	14.9%	18.0%	17.6%	15.1%	17.4%	15.5%	46.8%	53.2%	51.1%
Qualtrics	XM	18.2%	18.8%	18.5%	10.0%	10.1%	9.6%	46.6%	47.6%	47.2%
Quotient	QUOT	7.8%	8.1%	7.6%	8.0%	7.9%	7.1%	19.8%	19.8%	17.8%
SEMrush	SEMR	12.8%	14.4%	14.5%	22.0%	22.1%	20.9%	42.9%	50.3%	44.9%
Shopify	SHOP	13.1%	16.3%	15.4%	7.3%	8.1%	7.6%	18.5%	22.6%	21.2%
Sprinklr	CXM	11.4%	12.2%	12.2%	13.4%	12.5%	11.7%	54.9%	53.2%	51.9%
SproutSocial	SPT	19.2%	20.4%	20.0%	20.7%	19.1%	17.8%	39.1%	38.7%	38.1%
Squarespace	SQSP	20.1%	26.7%	26.0%	12.8%	11.4%	11.0%	42.6%	35.4%	34.9%
Twilio	TWLO	17.8%	18.3%	17.9%	9.9%	9.7%	9.4%	25.7%	26.0%	24.9%
Yext	YEXT	12.2%	14.9%	13.4%	16.4%	17.9%	16.1%	52.2%	51.0%	49.4%
Zendesk	ZEN	20.6%	20.8%	19.8%	10.7%	10.6%	10.1%	42.8%	42.4%	41.7%
Zeta	ZETA	8.2%	7.6%	7.6%	18.9%	17.4%	15.4%	21.7%	23.2%	23.2%
ZoomInfo	ZI	12.0%	12.0%	11.6%	9.7%	9.0%	8.8%	26.3%	27.3%	27.3%
Average		18.4%	19.4%	18.6%	15.4%	14.5%	13.4%	36.8%	38.0%	36.4%
Median		18.3%	18.7%	18.2%	15.5%	14.7%	13.6%	41.4%	37.6%	36.5%
25th Percentile		13.1%	15.1%	14.9%	10.7%	10.6%	10.3%	26.2%	27.7%	27.4%
75th Percentile		20.6%	21.9%	21.3%	17.3%	17.8%	15.5%	45.6%	48.3%	45.0%

























Source: FactSet (market data as of 3/31/2022), Company Filings. See Appendices A and B for company-specific details and methodologies.

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Ad Tech & MarTech – Q1 2022 Key Financings (1 / 4)

Ad Tech
MarTech
Digital Content

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
3/31/2022	 Prizeout	 CIP	\$25	\$156	<ul style="list-style-type: none"> Prizeout, a user acquisition platform linked to digital gift card redemption, secured a \$25mm Series B round. The new funding will expand Prizeout's B2B2C offering, support product development and sustain FTE growth.
3/30/2022	 Anzu	 NBCUniversal HTC	\$20	ND	<ul style="list-style-type: none"> Anzu, an in-game ad platform, announced it had raised \$20mm from NBCUniversal and HTC. The Israel-based company plans to continue their U.S. expansion, and grow their sales and marketing teams.
3/25/2022	 Stylitics	 PSG	\$80	ND	<ul style="list-style-type: none"> Stylitics, an AI-powered visual merchandising platform, raised a \$80mm Series C round led by PSG Equity. Stylitics will use the new funds to triple its investment in product development, and R&D in VR and AR.
3/24/2022	 Triple Whale	 ELEPHANT	\$28	\$124	<ul style="list-style-type: none"> Triple Whale, an eCommerce data management tool has raised \$24mm in a Series A1 round. The new funding will be used to expand the development team and integrate new components to the platform.
3/21/2022	 CommerceIQ	 SoftBank	\$115	\$1,025	<ul style="list-style-type: none"> CommerceIQ, an eCommerce management platform, has raised a \$115mm Series D led by SoftBank. CommerceIQ grew their revenue, customers served and FTEs by 100% in 2021.
3/21/2022	 Glia	 INSIGHT PARTNERS	\$45	\$1,050	<ul style="list-style-type: none"> Glia, an AI-powered CRM platform for the finance industry, has raised a \$45mm Series D, led by Insight Partners. The new funds will support development of their Digital Customer Service offering, and global expansion.
3/17/2022	 amagi	 Accel NORWEST	\$95	\$1,000	<ul style="list-style-type: none"> Multiple existing investors continue to back Amagi, a cloud broadcast and ad targeting software company. The company reported 108% YoY growth and a 59% increase in customers in 2021.
3/17/2022	 Amplience	 FARVIEW EQUITY PARTNERS	\$100	ND	<ul style="list-style-type: none"> Amplience, a commerce experience platform, has closed a \$100mm Series D led by Fairview and SixthStreet. The new funding comes on the back of 60% YoY growth in content management revenues in 2021.
3/16/2022	 RightBound	 innovation endeavors	\$24	ND	<ul style="list-style-type: none"> RightBound, an outbound sales development platform, has expanded its May 2021 Series A round to \$27mm. RightBound has tripled customer logo count and grown headcount to 50 FTEs in 2021.
3/15/2022	 channelengine	 atomico GENERAL CATALYST	\$50	ND	<ul style="list-style-type: none"> ChannelEngine, an eCommerce management platform, has secured a \$50mm Series B, led by General Catalyst. Channel engine reportedly doubled revenues in 2021, and has a customer base of 4500 retailers.
3/8/2022	 Swiftly	 wormhole	\$100	\$830	<ul style="list-style-type: none"> Swiftly, an eCommerce analytics tool, has secured a \$100mm Series B Round led by Wormhole Capital. The new funds will be used to hire an additional 200 FTEs across engineering, sales and marketing.
3/8/2022	 customer.io	 SPECTRUM EQUITY	\$85	\$785	<ul style="list-style-type: none"> Customer.io, a customer messaging automation tool, has raised a \$85mm Series A led by Spectrum Equity. Customer.io grew ARR 78% to \$30mm in 2021 and has already surpassed \$30mm ARR in 2022.

Source: Pitchbook, Company Announcements, BizJournals, BuiltIn, BusinessWire, CDPInstitute, ContentGrip, Forbes, GeekWire, GlobeNewsWire, MarTechSeries, MorningBrew, PRNewswire, PYMNTS, retailTouchPoints, Reuters, TechCrunch, VentureBeat.
 Note: All figures in USD millions unless noted otherwise.

Ad Tech & MarTech – Q1 2022 Key Financings (2 / 4)
























Ad Tech
MarTech
Digital Content

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
3/8/2022	CANAL	Undisclosed	\$23	\$115	<ul style="list-style-type: none"> Canal, a D2C eCommerce partnership management platform, has secured \$23mm in Series A funding. Canal hopes to build an all-in-one tool for brand partner proposals, commissions and payments.
3/4/2022	AssemblyAI	Y Combinator	\$28	ND	<ul style="list-style-type: none"> AssemblyAI, an audio intelligence API, has closed a \$28mm Series A round via YCombinator. The new funds will be used to expand Assembly AI's platform and functionality.
3/4/2022	disco	Felicis Ventures	\$20	ND	<ul style="list-style-type: none"> Disco, an AI-powered eCommerce partnership platform, has raised \$20mm in a Series A round led by Felicis. Disco hopes to triple its headcount to 75 by the end of 2022.
3/2/2022	Insider	QIA Qatar Investment Authority	\$121	\$1,220	<ul style="list-style-type: none"> Insider, an AI-powered CDP, has raised a \$121mm Series D round from the Qatar Investment Authority. Insider is now Turkey's 5th Unicorn and will use the funds to expand into the United States.
3/2/2022	emotive	crv	\$50	\$400	<ul style="list-style-type: none"> Emotive, an eCommerce conversational SMS platform, has raised a \$50mm Series B round led by CRV. The new funds will be used to expand their C-Suite, open new offices and launch new products.
3/1/2022	metadata.io	Next47 RESOLUTEVENTURES	\$40	ND	<ul style="list-style-type: none"> Metadata, an AI-powered B2B campaign management platform, raised \$40mm from Next47 and Resolute. Metadata grew 711% in the past 24 months and executed \$50mm in digital ad spend in 2021.
2/24/2022	AddApptr	AONIC	\$60	ND	<ul style="list-style-type: none"> AddApptr, a mobile app monetization platform has received a \$60mm investment from the Aonic Group. AddApptr will join Aonic's portfolio of video game studios, and the new funds are earmarked for R&D and M&A.
2/24/2022	fabric	SoftBank	\$140	\$1,500	<ul style="list-style-type: none"> SoftBank led a \$140mm Series C of Fabric, a platform that augments digital storefronts with POS technology. The funding comes less than a year after Fabric closed a \$43mm Series B round at a \$850mm valuation.
2/24/2022	AnyRoad	BlackRock	\$47	\$397	<ul style="list-style-type: none"> Anyroad, an experience relationship management platform, closed a \$47mm Series B led by BlackRock. Anyroad tripled top-line revenue in 2021 and has maintained 100% customer retention during the pandemic.
2/22/2022	CHEQ	TIGERGLOBAL	\$150	\$1,000	<ul style="list-style-type: none"> CHEQ, a go-to-market security provider has raised a \$150mm Series C round led by Tiger Global. CHEQ's projected 2028 TAM of \$3.2bn was central to the investment thesis.
2/22/2022	VYMO	BERTELSMANN	\$22	ND	<ul style="list-style-type: none"> Vymo, a sales engagement platform for financial institutions, has raised a \$22mm Series C round led by BII. In 2021, Vymo has 20% QoQ growth, 142% NRR, zero logo churn, and broke into the US market.
2/17/2022	COGNIGY	DTCP	\$59	ND	<ul style="list-style-type: none"> Cognigy, an AI-powered conversational automation platform, has extended its Series B to \$59mm. The funds will support expansion into Europe, North America and APAC.

Source: Pitchbook, Company Announcements, BizJournals, BuiltIn, BusinessWire, CDPInstitute, ContentGrip, Forbes, GeekWire, GlobeNewsWire, MarTechSeries, MorningBrew, PRNewswire, PYMNTS, retailTouchPoints, Reuters, TechCrunch, VentureBeat.
Note: All figures in USD millions unless noted otherwise.

Ad Tech & MarTech – Q1 2022 Key Financings (3 / 4)
























Ad Tech
MarTech
Digital Content

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
2/16/2022	 Raydiant		\$30	\$120	<ul style="list-style-type: none"> Raydiant, a CXP, has secured a \$30mm Series B round led by 8VC and Atomic Ventures. Raydiant achieved 357% YoY growth in 2021 and plans to grow headcount by 300% to 300 FTEs in 2022.
2/16/2022	 uniphore		\$400	\$2,500	<ul style="list-style-type: none"> Uniphore, an AI-Powered conversational automation platform, has secured a \$400mm Series E led by NEA. Uniphore made 2 recent acquisitions in 2021 and will use the new funds to support its global expansion.
2/14/2022	 Databook		\$50	\$550	<ul style="list-style-type: none"> DataBook, a customer intelligence platform, has raised a \$50mm Series B round led by BVP. DataBook's founders note their strong balance sheet and new funding will support headcount expansion.
2/10/2022	 VOXIE	Various Angel Investors	\$25	\$81	<ul style="list-style-type: none"> Voxie, a conversational SMS marketing platform, has expanded its \$6mm Series A by an incremental \$25mm. Voxie saw 500% growth overall last year, and will use the new funds to sustain a similar trajectory.
2/8/2022	 ANALYTIC PARTNERS		ND	ND	<ul style="list-style-type: none"> Analytic Partners, a customer segmentation analytics software, has secured a growth investment from Onex. Analytic partners plans to expand its current global footprint of 270 FTEs in 14 offices across 55 countries.
2/8/2022	 Endgame		\$30	ND	<ul style="list-style-type: none"> Endgame a self-described 'product-led sales platform', has closed a \$30mm Series B round led by EQT. The new funds will support a tripling of total headcount, with a focus on R&D, engineering and go-to-market.
2/4/2022	 branch		\$300	\$4,000	<ul style="list-style-type: none"> Branch, a cross-platform solution for mobile linking and attribution has raised \$300mm at a \$4bn valuation. The Series F funds come from existing investor NEA, and will support R&D efforts.
2/3/2022	 cart.com		\$240	\$917	<ul style="list-style-type: none"> Cart, an eCommerce-as-a-service platform, has raised \$240mm in new funding led by Legacy Knight. Cart has seen revenues grow 400%, and headcount climbed to 850 FTEs in Q1 2022.
2/2/2022	 crisp.		\$35	\$385	<ul style="list-style-type: none"> Crisp, a marketing intelligence and data platform, has raised a \$35mm Series B round led by 3L Capital. The funding will go towards growing the team, which is currently 80 FTEs.
2/2/2022	 rudderstack		\$56	\$576	<ul style="list-style-type: none"> RudderStack, a CDP, has raised a \$56mm Series B round led by Insight Partners. During 2020-21, RudderStack's revenue grew 4.5x, their customer base tripled, and headcount tripled to 115.
2/2/2022	 Kognitiv		\$38	ND	<ul style="list-style-type: none"> kognitiv, a CRM and loyalty management platform, has raised new funds led by Aimia. The new capital will support R&D and efforts to accelerate platform adoption.
2/1/2022	 channable		\$62	ND	<ul style="list-style-type: none"> Channable, an eCommerce feed management and PPC automation platform, closed a \$62mm Series B. The new funds from Partech will go towards funding global expansion for Channable.

Source: Pitchbook, Company Announcements, BizJournals, BuiltIn, BusinessWire, CDPInstitute, ContentGrip, Forbes, GeekWire, GlobeNewsWire, MarTechSeries, MorningBrew, PRNewswire, PYMNTS, retailTouchPoints, Reuters, TechCrunch, VentureBeat.
Note: All figures in USD millions unless noted otherwise.













Ad Tech & MarTech – Q1 2022 Key Financings (4 / 4)

Ad Tech
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Digital Content

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
2/1/2022	 GWI	 PERMIRA	\$180	\$850	<ul style="list-style-type: none"> GWI, an audience intelligence company, has raised a \$180mm Series B round, led by Permira Growth. Since their \$40mm Series A round in 2018, GWI has tripled ARR and grown to 400+ FTEs.
1/26/2022	 bloomreach	 Goldman Sachs Asset Management	\$175	\$2,200	<ul style="list-style-type: none"> Bloomreach, an eCommerce search and website creation API company, has raised a \$175mm Series F. The fresh funding will be allocated to investments in R&D and support international expansion efforts.
1/25/2022	 jebbit	 VISTA	\$70	ND	<ul style="list-style-type: none"> Jebbit, a zero party data quiz software provider, has secured \$70mm in growth capital from Vista Equity Partners. Jebbit doubled its revenue and grew new business by 300% during FY 2021.
1/25/2022	 Reputation	 MARLIN EQUITY PARTNERS	\$150	ND	<ul style="list-style-type: none"> Reputation, a customer feedback data platform, has secured a \$150mm growth investment from Marlin. Reputation has surpassed \$100mm ARR and will use the new funds to support international expansion.
1/20/2022	 6sense	 BLUE OWL MSD Capital	\$200	\$5,200	<ul style="list-style-type: none"> 6Sense, an AI-powered predictive intelligence platform, closed a \$200mm Series E led by Blue Owl and MSD. The new funding will support headcount expansion accelerate go-to-market strategies in EMEA and Australia
1/19/2022	 Pixis	SoftBank Vision Fund	\$100	ND	<ul style="list-style-type: none"> Pixis, a no-code contextual AI tool suite for marketers, has secured a \$100mm Series C Led by SoftBank. The fresh funds will support expansion into North America, Europe, and APAC.
1/14/2022	 Bolt	 BlackRock H L G CAPITAL	\$355	\$11,000	<ul style="list-style-type: none"> Bolt, an eCommerce checkout platform, has secured a \$355m Series E round led by BlackRock. This new funding comes just three months after their \$393mm Series D and has doubled their valuation.
1/12/2022	 HIGHSPOT	 B Capital Group D1 CAPITAL PARTNERS	\$248	\$3,648	<ul style="list-style-type: none"> HighSpot, a sales enablement platform, has secured a \$248mm Series F round led by B Capital and D1 Capital. HighSpot ARR has grown more than >130% over the last 12 months.
1/11/2022	 Wizard	 NEA	\$50	\$150	<ul style="list-style-type: none"> Wizard, a conversational AI for eCommerce, has secured a \$50mm Series A from New Enterprise Associates. Wizard recently acquired Sylust, a text-based shopping platform; and brought on Marc Lore as chairman.
1/6/2022	 Gravy ANALYTICS	 SPRING LAKE EQUITY PARTNERS	\$16	\$81	<ul style="list-style-type: none"> Gravy Analytics, a location-based customer intelligence platform, has raised \$16mm from Spring Lake. Gravy has Raised \$54mm to date, and as part of the deal also received a \$10mm loan from Espresso Capital.
1/4/2022	 APOLLO	 SEQUOIA	\$110	\$910	<ul style="list-style-type: none"> Apollo.io, a sales intelligence and engagement platform, secured a \$110mm Series C led by Sequoia. Apollo.io operates a freemium model and has grown paying customers by 60% since their Series B in 2021.
1/4/2022	 HUMAN	 WESTCAP	\$100	ND	<ul style="list-style-type: none"> Human Security, a bot mitigation software for mobile and display ads, has raised \$100mm from WestCap Group. Human Security has seen its revenue growth rate double over the last year.
























Source: Pitchbook, Company Announcements, BizJournals, BuiltIn, BusinessWire, CDPInstitute, ContentGrip, Forbes, GeekWire, GlobeNewsWire, MarTechSeries, MorningBrew, PRNewswire, PYMNTS, retailTouchPoints, Reuters, TechCrunch, VentureBeat.
Note: All figures in USD millions unless noted otherwise.

Digital Content – Q1 2022 Key Financings (1 / 3)

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
3/23/2022	 YUGALABS	andreesen. horowitz	\$450	\$4,000	<ul style="list-style-type: none"> Yuga Labs, the studio behind Bored Ape Yacht Club, has raised \$450mm at a \$4bn valuation from a16z. This is Yuga Labs' first fundraising and comes fresh off recent strategic acquisitions and the launch of ApeCoin.
3/23/2022	 GAMEFAM	KONVOY	\$25	\$90	<ul style="list-style-type: none"> GameFam, a Roblox game developer linking real life brands to the metaverse raised a \$25mm Series A. Since 2019 Gamefam has released 30 live games on Roblox, and has grown headcount to 100+ FTEs.
3/17/2022	 RIFFRAFF GAMES	Tencent	ND	ND	<ul style="list-style-type: none"> Tencent has made a significant minority investment in Studio MayDay, which has rebranded as RiffRaff Games. The New Zealand based studio was founded in 2019, and best known for the 4mm - selling Framed series.
3/17/2022	 FRVR	HIRO CAPITAL	\$76	\$85	<ul style="list-style-type: none"> FRVR, a mobile and web-based casual games developer raised \$76mm in a round led by Hiro Capital. The funds will secure additional games and content to the platform, as well as channels beyond app stores.
3/17/2022	 RAMEN VR	ANTHOS  dune	\$35	ND	<ul style="list-style-type: none"> Ramen, a software for VR MMORPG games, has raised a \$35mm Series B round led by Anthos and Dune. Ramen noted that the investment will go towards expansion of its staff and game development.
3/14/2022	 MAGIC EDEN	Paradigm	\$27	ND	<ul style="list-style-type: none"> Magic Eden, a Solana-based NFT marketplace, has raised a \$27mm Series A round led by Paradigm. Magic Eden surpassed a transaction volume of 7.5mm SOL over the last 6 months.
3/11/2022	 LOCO	#HASHED	\$42	\$187	<ul style="list-style-type: none"> Loco, a gaming and streaming platform has raised a \$42mm Series A as it looks to build a 'Twitch for India'. Loco has amassed 45k streamers and 5.3mm monthly active users, 450k of whom use the service daily.
3/10/2022	 BURLINGAME STUDIOS	SCOPELY	\$20	ND	<ul style="list-style-type: none"> Scopely, a leading interactive entertainment and mobile games company, a new mobile game developer. The studios will develop a game with the funding and new partnership.
3/10/2022	Curated	Marc Andreessen Chris Dixon	\$30	ND	<ul style="list-style-type: none"> Chris Dixon and Marc Andreessen have backed Curated, a \$30mm fund exclusively investing in NFT art. The fund will be evenly split between blue-chip projects (BAYC, CryptoPunks, etc.), and up-and-comers.
3/9/2022	 A24	NEUBERGER BERMAN	\$225	\$2,250	<ul style="list-style-type: none"> A24, the indie-film studio behind 'Uncut Gems', has raised a \$225mm from Stripes and Neuberger Berman. The investment will fund expansion of operations and distribution.
3/9/2022	 MOJO	THRIVE CAPITAL	\$75	\$225	<ul style="list-style-type: none"> Mojo, a 'sports betting stock market' platform, has secured a \$75mm Series A Round led by Thrive Capital. The venture is run by Marc Lore, Alex Rodriguez, and serial entrepreneur Vinit Bharara.
3/3/2022	 thatgamecompany	TPG SEQUOIA	\$160	\$1,500	<ul style="list-style-type: none"> thatgamecompany, an indie console game developer, has raised \$160mm, at \$1.5bn, in a Series D round. The new funds will go towards growing the development team and organization infrastructure.





















Source: PitchBook, Company Announcements, Bloomberg, Businesswire, CoinDesk, CoinTelegraph, dot.LA, Economic Times, Forbes, FOS, GameIndustry, Hollywood Reporter, PocketGamer, PRNewswire, PYMNTS, StockHead, TechCrunch, technical.ly, Variety, VentureBeat.
 Note: All figures in USD millions unless noted otherwise.

Digital Content – Q1 2022 Key Financings (2 / 3)

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
3/2/2022	 SOLCHICKS	Various Investors	\$22	445	<ul style="list-style-type: none"> SolChicks, a play-to-earn blockchain game company, has raised \$22m from various funds and staff. This brings their total funds raised to \$77mm and will support the launch of their fantasy NFT RPG in April.
3/1/2022	 AGLET	 alexa fund  GALAXY	\$17	\$24	<ul style="list-style-type: none"> Aglet, a sneaker metaverse game, has raised \$17mm from Galaxy Interactive and the Amazon Alexa Fund. The platform, which allows users to trade virtual sneakers has reportedly grown to 150k active players.
2/28/2022		 Ministry of Science, ICT and Future Planning	\$187	NM	<ul style="list-style-type: none"> South Korea's Ministry of ICT, Science & Future Planning pledged \$187mm to a national metaverse project. The government agency intends on using its metaverse platform to support education and media initiatives.
2/24/2022	 CANELA.TV	 Acrew	\$32	\$189	<ul style="list-style-type: none"> Canela, a Spanish-language OTT & online video platform, has secured a \$32mm Series A led by Acrew Capital. Canela reaches more than 50mm unique Hispanic viewers across its 180+ premium Spanish-language websites.
2/23/2022	 BACKBONE	 Index Ventures	\$40	\$375	<ul style="list-style-type: none"> Backbone, the developer of a game controller that turns iPhones into consoles, raised a \$40mm Series A. The large global TAM of mobile gamers was central to the investment thesis.
2/15/2022	EVERYREALM	 andreessen horowitz  coinbase	\$60	\$195	<ul style="list-style-type: none"> EveryRealm, a woman-led metaverse real estate and gaming platform, raised \$60mm from a16z and Coinbase. EveryRealm has 100+ real estate holdings across 25 metaverse platforms, 3,000 NFTs, and a gaming guild.
2/14/2022	 glance	 Jio	\$200	ND	<ul style="list-style-type: none"> Glance, a mobile lockscreen entertainment platform has raised a \$200mm Series D from Jio Platforms. The new funds will be used towards deepening AI capability, and strategic acquisitions.
2/14/2022	 tripledot	 20VC	\$116	\$1,400	<ul style="list-style-type: none"> Tripledote Studios, a casual mobile game developer, has raised a \$116mm round at \$1.4bn valuation. Tripledote reaches 25mm users monthly with Woodoku and Solitaire, and reportedly tripled revenue in 2021.
2/14/2022		 QIMING VENTURE PARTNERS  源码资本 SOURCE CODE CAPITAL	\$15	ND	<ul style="list-style-type: none"> BUD, a social 3D metaverse platform, has raised \$15mm in a Series A+ round led by Qiming Venture Partners. BUD was co-founded by ex-Snap engineers in 2019, who've since grown the company to 100+ FTEs.
2/10/2022	 eternal Labs	 MORNINGSTAR VENTURES	\$20	ND	<ul style="list-style-type: none"> Ethernity, an NFT marketplace, has raised \$20mm towards its new studio, Ethernal Labs. Ethernal Labs plans to launch several play-to-earn NFT game experiences in the coming year.
2/1/2022	 LifeBrand	Undisclosed	\$27	\$110	<ul style="list-style-type: none"> LifeBrand, an AI-powered social media monitoring platform, has secured a \$27mm Series A round. The company recently grew to 45 FTEs and plans to use the new funds to expand their east coast presence.
1/27/2022		TIGERGLOBAL	\$60	\$370	<ul style="list-style-type: none"> PortalOne, an AR & VR game developer that integrates mobile games and TV, raised a \$60mm Series A. LA-based PortalOne is set to grow their team across the U.S. and Norway, and expects a full launch in H1 2022.

Source: PitchBook, Company Announcements, Bloomberg, Businesswire, CoinDesk, CoinTelegraph, dot.LA, Economic Times, Forbes, FOS, GameIndustry, Hollywood Reporter, PocketGamer, PRNewswire, PYMNTS, StockHead, TechCrunch, technical.ly, Variety, VentureBeat.
 Note: All figures in USD millions unless noted otherwise.

Digital Content – Q1 2022 Key Financings (3 / 3)

Announcement Date	Company	Selected / Key Investor(s)	Capital Raised in Transaction	Valuation	Commentary
1/26/2022			\$227	\$1,000	<ul style="list-style-type: none"> Fever, a social event discovery platform, has raised \$227mm from GS, Goodwater, and Smash Ventures. Fever operates in 60 cities, and has grown revenues 10x since their \$35mm fundraise in 2019.
1/25/2022		kakaogames	\$25	\$125	<ul style="list-style-type: none"> Frost Giant Studios, a RTS game developer, has raised \$25mm in Series A financing led by Kakao Games. The new funding will be used to expand headcount as they work towards a 2022 game release goal.
1/25/2022			\$20	\$100	<ul style="list-style-type: none"> Koji, a creator economy platform raised a \$20mm Series B round led by Jump Capital. Since their 2021 launch, 150k+ creators use Koji's link-in-bio platform across 200+ apps.
1/20/2022			\$170	\$3,170	<ul style="list-style-type: none"> Tom Brady's NFT startup, Autograph, raised a \$170mm Series B round led by a16z and Kleiner Perkins. The platform brings together A-list names in sports, entertainment and culture to create digital experiences.
1/19/2022			\$20	\$120	<ul style="list-style-type: none"> Carry1st, a mobile game publisher focused on Africa has raised a \$20mm Series A led by Andreesen Horowitz. Carry1st saw 96% monthly revenue growth in 2021, and is a16z's first investment in an Africa-HQ'd firm.
1/18/2022			\$255	\$2,750	<ul style="list-style-type: none"> Dream Games, a mobile casual puzzle studio, raised a \$255mm Series C round at a \$2.75bn valuation. Dream Games became Turkey's 4th unicorn in 2021, and has doubled its valuation in the last 6 months
1/18/2022			\$359	\$5,000	<ul style="list-style-type: none"> Animoca Brands, a digital entertainment HoldCo, raised at a \$5bn+ valuation, tripling their Oct '21 valuation. The new capital will be used to fund strategic acquisitions, R&D and IP licenses, to grow the open metaverse.
1/17/2022			\$55	ND	<ul style="list-style-type: none"> Spyke, a mobile casual and social studio, raised a \$55mm seed round led by Griffin Gaming Partners. Spyke is developing their first game, and the co-founders were previous execs at Peak Games, Zynga and Riot.
1/12/2022		Undisclosed	\$50	ND	<ul style="list-style-type: none"> Yahaha, a no-code platform for building immersive games, has closed \$50mm across 3 successive rounds. The alpha-version of its metaverse-focused product is expected to launch in Q2 2022.
1/4/2022			\$300	\$13,300	<ul style="list-style-type: none"> OpenSea, an NFT marketplace, has raised a \$300mm Series C round led by Coatue and Paradigm. OpenSea processed \$2.4bn in transaction volume in the 30 days leading up to the announcement.
1/4/2022			\$100	\$840	<ul style="list-style-type: none"> Atmosphere, an audio-optional TV streaming platform, has secured a \$100mm Series C led by Sageview. Atmosphere's content is streamed for 250K hours daily, reaching ~20mm unique viewers per month.

Source: PitchBook, Company Announcements, Bloomberg, Businesswire, CoinDesk, CoinTelegraph, dot.LA, Economic Times, Forbes, FOS, GameIndustry, Hollywood Reporter, PocketGamer, PRNewswire, PYMNTS, StockHead, TechCrunch, technical.ly, Variety, VentureBeat.
Note: All figures in USD millions unless noted otherwise.

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Appendix A: Net Revenue Methodology & Definitions

Company	Ticker	Net Revenue		EBITDA		EBITDA Margin %	
		Definition / Metric Used	Source	Definition / Metric Used	Source	Definition	Source
Acuity Ads*	ATY	Gross Profit	FactSet	"EBITDA" as defined and forecasted by Brokers ⁽⁶⁾	FactSet	EBITDA ÷ Gross Profit	Calculation
Affle ⁽¹⁾	542752	See footnote (1)	Filings		FactSet	Not calculated	NA
AppLovin	APP	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Cardlytics*	CDLX	Gross Profit	FactSet		FactSet	EBITDA ÷ Gross Profit	Calculation
Criteo [†]	CRTO	Revenue ex-TAC	FactSet / Filings		FactSet	EBITDA ÷ Revenue ex-TAC	Calculation
Digital Turbine ^{(2)‡}	APPS	Gross Profit	See footnote (2)		FactSet	EBITDA ÷ Gross Profit	See footnote (2)
DoubleVerify	DV	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Innovid	CTV	Reported Revenue	FactSet		Filings	EBITDA ÷ Reported Revenue	Calculation
Integral Ad Science	IAS	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
ironSource	IS	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
LiveRamp	RAMP	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Roku	ROKU	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Magnite ^{(3)‡}	MGNI	Reported Revenue	See footnote (3)		FactSet	EBITDA ÷ Reported Revenue	See footnote (3)
MediaAlpha*	MAX	Gross Profit	FactSet		FactSet	EBITDA ÷ Gross Profit	Calculation
Mobvista	1860	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Outbrain ⁽⁴⁾	OB	Gross Profit ex-TAC	See footnote (4)		FactSet	EBITDA ÷ Gross Profit ex-TAC	Calculation
Perion Network ^{(5)†}	PERI	Revenue ex-TAC	See footnote (5)		FactSet	EBITDA ÷ Revenue ex-TAC	Calculation
PubMatic	PUBM	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Taboola ^{†(6)}	TBLA	Gross Profit ex-TAC	See footnote (6)		FactSet	EBITDA ÷ Gross Profit ex-TAC	Calculation
The Trade Desk	TTD	Reported Revenue	FactSet		FactSet	EBITDA ÷ Reported Revenue	Calculation
Tremor International ⁽⁷⁾	TRMR	Reported Revenue	FactSet	FactSet	EBITDA ÷ Reported Revenue	Calculation	
Unity Software	U	Reported Revenue	FactSet	FactSet	EBITDA ÷ Reported Revenue	Calculation	
Viant [†]	DSP	Revenue ex-TAC	Filings	FactSet	EBITDA ÷ Revenue ex-TAC	Calculation	

Source: FactSet (market data as of 3/31/2021), Company Filings. **Note:** Figures correspond to calendar years, or closest equivalent period. See Appendices A and B for company-specific details and methodologies. Forward estimates excluded for companies whose relevant metrics are not available on a forward basis (i.e., excluded if brokers do not forecast the specific metric such as "Ex-TAC Gross Profit" or similar such top-line metric) * Denotes usage of Gross Profit as proxy for Net Revenue † Denotes usage of Revenue ex-TAC as proxy for Net Revenue. ‡ Denotes figures presented on estimated pro forma basis. EBITDA multiples less than zero or greater than 75.0x are considered not meaningful ("NM"). (1) Affle figures contemplate Revenue less Inventory and Data Costs (2) Digital Turbine figures presented on an estimated pro forma basis inclusive of estimates for recent material acquisitions (Fyber, AdColony) for CY2021; consensus figures contemplated thereafter (due to the fact such figures are projected on a combined basis). Source data for analysis compiled by LUMA from public filings and equity research reports of the respective target companies. See Appendix B for further details on methodology. (3) For Magnite, CY 2021 figures are presented on an estimated pro forma basis inclusive of estimates for Telaria and SpotX acquisitions for all presented periods. Pro forma figures are estimated by adjusting initial pro forma forecast published by Craig Hallum (as of May 3rd, 2021) with figures derived from (i) interim reported financial performance versus prior consensus estimates (e.g., Q2/Q3 actuals versus consensus for corresponding periods), and (ii) revisions to consensus estimates of future performance. Current estimates for Magnite contemplate Craig Hallum equity research as of March 4, 2022. See Appendix B for further details on methodology. (4) Outbrain forward projections per Jefferies Equity Research as of March 2, 2022. (5) Perion forward projections per Oppenheimer Equity Research Report as of February 9, 2022. (6) Taboola forward Net Revenue projections per KeyBanc Research as of February 23, 2022. (7) Tremor International's share price contemplates ordinary share price that represent approximately half of the NASDAQ-listed ADS share price.

Appendix B: Selected Other Public Company Notes (1 / 2)

Ad Tech Public Companies - Selected Notes

Company	Ticker	Exchange	Notes
Affle	AFFLE	NSE	Market Capitalization contemplates ordinary shares outstanding; net diluted shares outstanding could not be located in public disclosures. Figures correspond to the closest applicable quarter.
Magnite	MGNI	NASDAQ	CY 2021 figures are presented on an estimated pro forma basis inclusive of estimates for Telaria and SpotX acquisitions for all presented periods. Pro forma figures are estimated by adjusting initial pro forma forecast published by Craig Hallum (as of May 3 rd , 2021) with figures derived from (i) interim reported financial performance versus prior consensus estimates (e.g., Q2/Q3 actuals versus consensus for corresponding periods), and (ii) revisions to consensus estimates of future performance. Current 2021 actuals for Magnite contemplate Craig Hallum equity research as of March 4, 2022. CY 2022 and CY 2023 figures represent consensus estimates.
Mobvista	1860	HKG	Market Capitalization contemplates ordinary shares outstanding; net diluted shares outstanding could not be located in public disclosures.
Tremor Int'l	TRMR	LSE; NASDAQ	Market Capitalization contemplates the product of (i) FDSO and (ii) Tremor's local U.K. share price denominated in GBP. Market Capitalization is converted to USD at the daily spot rate.
Digital Turbine	APPS	NASDAQ	CY 2021 figures are presented on an estimated pro forma basis contemplating figures from a compilation of publicly-available information obtained via equity research reports and company guidance at the time of deal announcements for recent material acquisitions of AdColony and Fyber. The estimates for CY 2021 are adjusted to account for (i) interim reported performance versus prior consensus estimates (e.g., Q2/Q3 actuals versus consensus for corresponding periods), and (ii) revisions to consensus estimates of future performance. Growth rates calculated relative to CY 2021 are therefore stated on a pro forma basis, fully inclusive of recent acquisitions (on an estimated basis).

Source: FactSet (market data as of 3/31/2021), Company Filings.

Appendix B: Selected Other Public Company Notes (2 / 2)

MarTech Public Companies - Selected Notes

Company	Ticker	Exchange	Notes
Appier	4180	TYO	Market Capitalization contemplates ordinary shares outstanding; inputs for net diluted shares outstanding could not be located in public disclosures.
Braze	BRZE	NASDAQ	CY figures contemplates the closest period based on an October 31 st FYE.
Sprinklr	CXM	NYSE	CY figures contemplates the closest period based on a January 31 st FYE.
Yext	YEXT	NYSE	CY figures contemplates the closest period based on a January 31 st FYE.

Source: FactSet (market data as of 3/31/2022), Company Filings.

LUMA's Recent Deals



March 2022

tvSquared[™]

has agreed to be acquired by

INNOVD

The undersigned acted as exclusive financial advisor to TV Squared Limited

January 2022

APPLOVIN

has agreed to acquire

mopub[™]

a wholly owned subsidiary of

The undersigned acted as exclusive financial advisor to AppLovin Corporation

December 2021

APPLOVIN

Secondary Offering
\$622,500,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to AppLovin Corporation

September 2021

Reflektion

has been acquired by

SITECORE[™]

The undersigned acted as a financial advisor to Reflektion, LLC

August 2021

publica

has been acquired by

IAS Integral Ad Science

The undersigned acted as the exclusive financial advisor to Publica LLC

July 2021

Outbrain

Initial Public Offering
\$160,000,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to Outbrain, Inc.

July 2021

JetFuel

has been acquired by

Vungle

The undersigned acted as the exclusive financial advisor to JetFuel, Inc.

July 2021

Chartboost

has agreed to be acquired by

zynga[®]

The undersigned acted as financial advisor to Chartboost, Inc.

June 2021

Simplifi

has agreed to sell an equity interest to

Blackstone

The undersigned acted as financial advisor to Simplifi Holdings, Inc.

April 2021

APPLOVIN

Initial Public Offering
\$2,000,000,000

LUMA Securities, a wholly-owned broker-dealer of the undersigned, acted as underwriting co-manager to AppLovin Corporation.



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