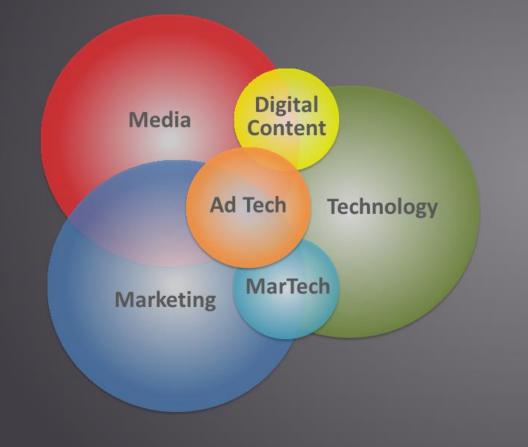
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LUMA presents our year-end 2018 Market Report, which covers our research and views on the year's ongoing trends, most important deals, public market performance, and companies to look out for, with a specific focus on advertising technology, marketing technology, and digital content.

LUMA's Singular Focus on Media & Marketing Tech



LUMA's expertise is at the intersection of Media, Marketing and Technology

- At this intersection exists:
 - Digital Content
 - Ad Tech
 - MarTech
- These companies employ a variety of business models including services, media, data, commerce and software



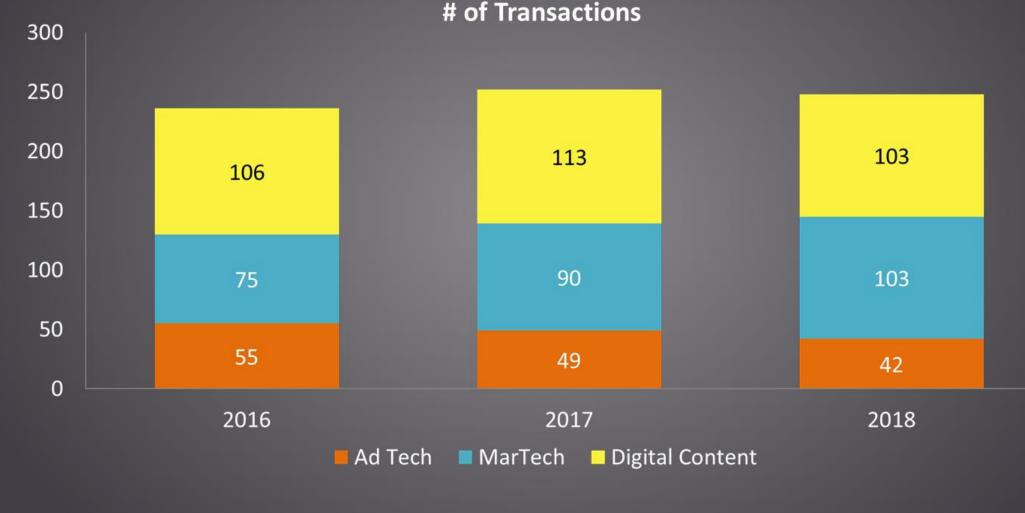


Market Analysis & Trends





U.S. Media & MarTech M&A Activity by Sector



4 Source: LUMA

We saw year-over-year deal count decline between 2017 and 2018. However, while the total number of deals were down, the size of deals were much larger. Between Ad Tech and MarTech, there were seven deals over \$1 billion in 2018, compared to zero in 2017.

Marketing Clouds, MVPDs, and PE companies were the most prominent buyers this year, as Adobe, Oracle, Salesforce, AT&T, Vista Equity, and GTCR all made \$850M+ acquisitions.

2018 Analysis: 10-Year Money In/Money Out

<u>Ad Tech</u>



<u>MarTech</u>



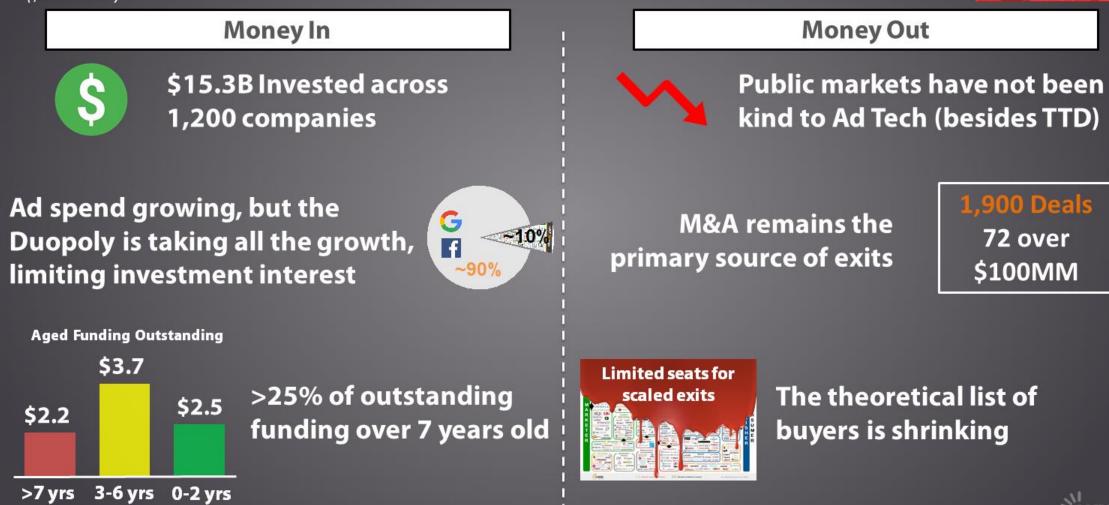


A few months ago, we released a report looking at investment and returns in Ad Tech over a 10-year period (2008-2018), which we appropriately titled "Problematic I/O." Soon after, we decided to conduct the same analysis for the MarTech industry, which showed a very different story – "Success in SaaS." The following two pages highlight the key points coming out of each of these analyses.

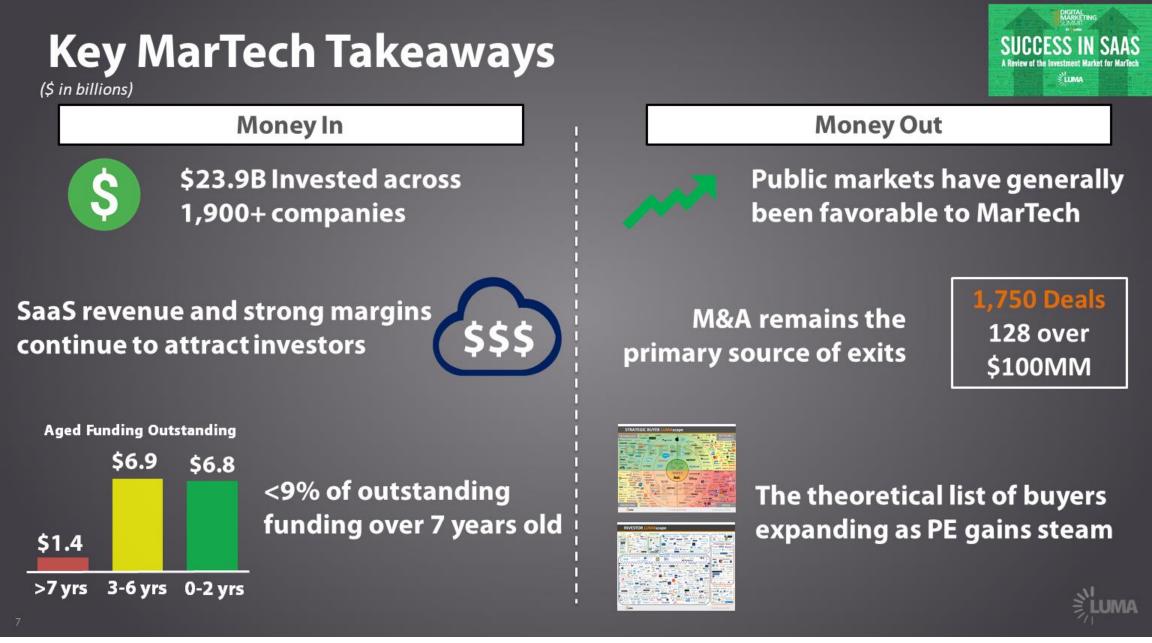
Key Ad Tech Takeaways

(\$ in billions)



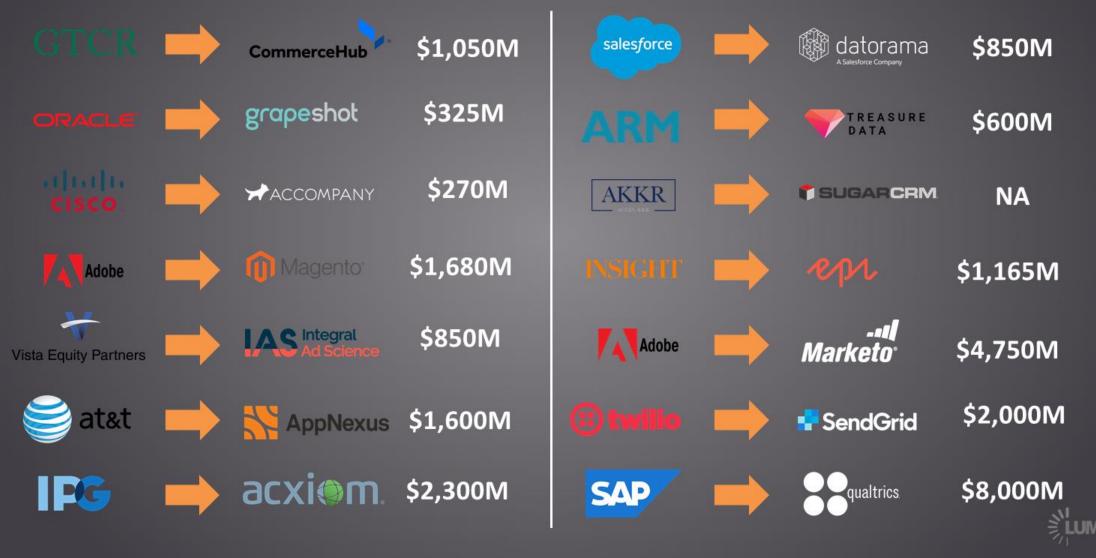


Over the last 10 years, there has been significant investment into Ad Tech, ~\$15B in total, as investors sought to benefit from the growth in digital advertising. While digital advertising has grown considerably, a \$100B+ market today, it accrued to a few (primarily Google and Facebook) rather than the masses. As a result, scaled exit opportunities have been limited, leaving a significant amount of aged funding still outstanding. With public markets continuing to be a challenge for Ad Tech and a seemingly shrinking set of buyers, the future looks bleak for undifferentiated Ad Tech companies.



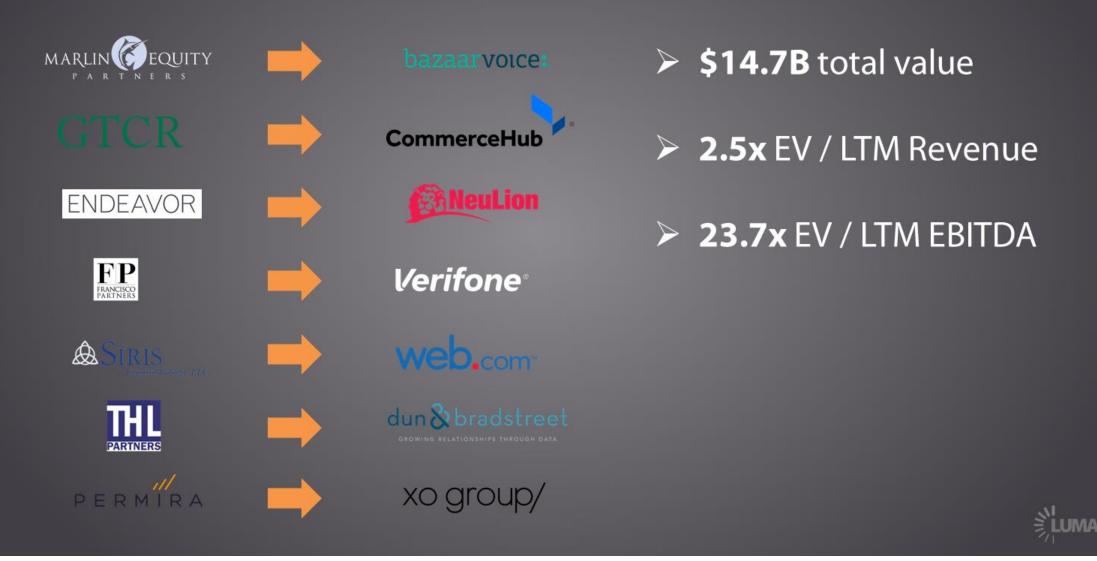
On the other side of the coin is MarTech, whose recent past and future both look promising. MarTech companies also raised a significant amount of funding over the last 10 years, ~\$24 billion in total, as SaaS started taking over the marketing world. Unlike Ad Tech, MarTech funding has continued to grow, as investors have seen healthy returns from both the public markets and M&A. Companies like Shopify and Twilio have performed exceedingly well in the public markets and we've witnessed a multitude of strategic exits, including 29 deals over \$1 billion. We expect this to continue as new buyers continue to take interest in the category. Most recently, Private Equity has jumped into the scene, quickly becoming the most active set of buyers.

2018: Active M&A Market in MarTech & Ad Tech



As mentioned on the prior pages, MarTech remains the leader in large, strategic exits. This year was no different, as MarTech saw six M&A deals over \$1 billion in 2018! Ad Tech also saw a few strong M&A exits, with the largest being AT&T's acquisition of AppNexus for \$1.6 billion.

Take Privates All the Rage



Alongside the increase in scaled M&A exits, we also saw changes in the type of M&A that was being done in 2018. Notably, take privates became more popular last year, as we saw 7 companies taken private across marketing, advertising, and digital content. These were done for a total deal value of ~\$15B. More importantly, these deals had robust valuations, particularly for Private Equity, averaging almost 24x EBITDA.

The New PE Playbook: Strategic vs. Financial

	Financial Rationale							Strategic Rationale
	FRANCISCO PARTNERS	SIRIS Capital Group, LLC	The Thomas H. Lee Partners dun & bradstreet		IE Q T O Sitecore	VISTA FOULTY PARTNERS	VISTA COULTY PARTNERS -all Marketo	GTCR CommerceHub
/ LTM renue	1.8x	2.5x	3.8x	NA	NA	NA	7.5x	9.5x
/ LTM ITDA	14.6x	12.7x	12.4x	NA	NA	NA	NM	23.2x
Value	\$3,292M	\$1,864M	\$6,880M	\$300M	\$1,100M	\$850M	\$1,800M	\$1,050M

Source: Pitchbook; Public Company Filings; Company Announcements

This is part of a new Private Equity paradigm. Rather than limiting themselves to investments based on pure financials, PE buyers are now willing to pay up for assets where they see strategic value. This is leading to PE winning deals at valuations typically reserved for strategic buyers (high multiples of revenue and +20x EBITDA). We view this willingness to bid up as a vote of confidence in the growth opportunity for MarTech and potential for large scale public offerings and/or outsized strategic exits.

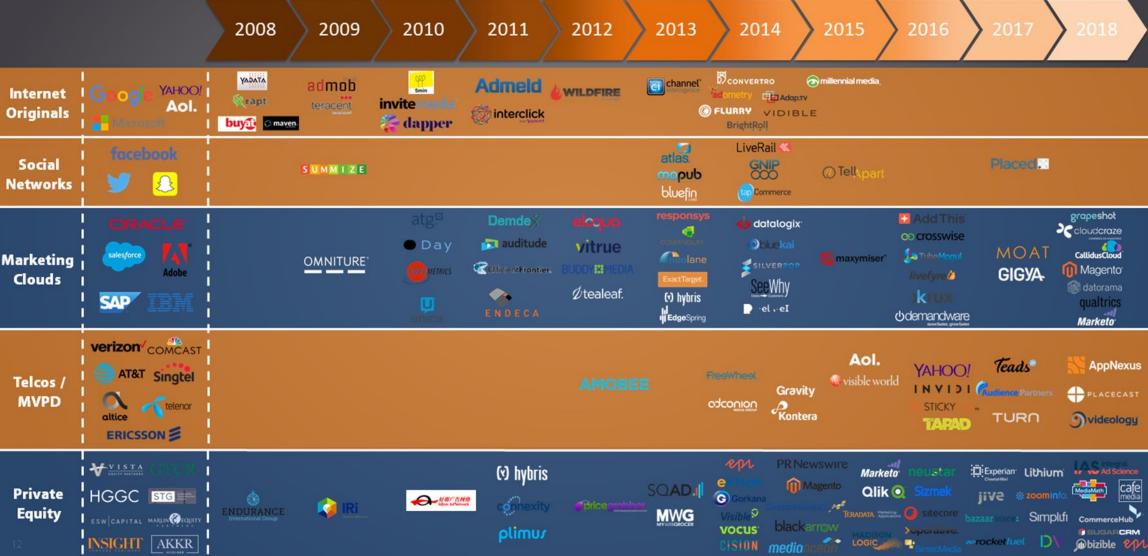
Strategic PE Investment Case Study: Marketo <u>2016</u> <u>2018</u>

sta Equity Partners	Marketo	Adobe	Marketo °
Deal Value:	\$1,800M	Deal Value:	\$4,750M
Premium:	64%	Premium:	NA
EV/LTM Revenue:	7.5x	EV/2017 Revenue:	14.8x
		Strong revenu	e growth
LTM Revenue:	\$241M	Profital	ble
LTM Revenue Growth:	35%		
LTM EBITDA:	(\$50M)		3.1x MoM
		Vista Equity Partners	71% IRR (25 months)

A guess as to what's inspiring this activity: Look at Marketo. In 2016, Vista Equity Partners paid almost 8x revenue, outbidding strategic parties, to de-list the marketing automation company. What confounded the market as a sizable bet in a loss-making company became an enormous exit for Vista. Vista implemented their operational playbook, moving the company into profitability and we've heard perhaps spurring growth. Just two years later, Adobe stepped in to pay nearly \$5B – or 15x revenue – to acquire Marketo, generating a 71% IRR for Vista.

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Strategics Buying in Ad Tech & MarTech



For Ad Tech and MarTech, the list of buyers has diverged. For Ad Tech, the set of potential buyers that used to include Internet Originals, Social Networks, and Telcos has withered. The top two categories have either acquired what they need or been consolidated themselves. Telcos, while still active, have been burned by some of their larger investments (i.e. Oath), leaving a limited set of buyers for the aging Ad Tech assets.

On the flip side, MarTech's list of buyers remains the Marketing Clouds and increasingly, competitive interest from Private Equity companies. Exit dynamics remain strong for the category as it reaches natural maturity.

Recent MarTech Exits Driving Robust Deal Pipeline



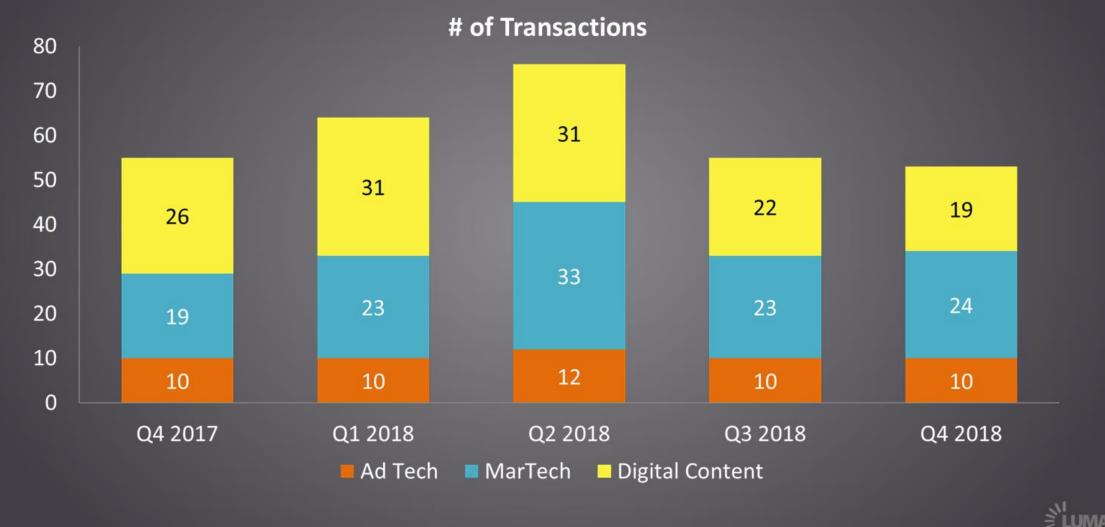
As a result to this expanding buyers list and outsized exits, a number of scaled MarTech companies are either currently in market or mulling a sale process.

2018 Detailed Market Data





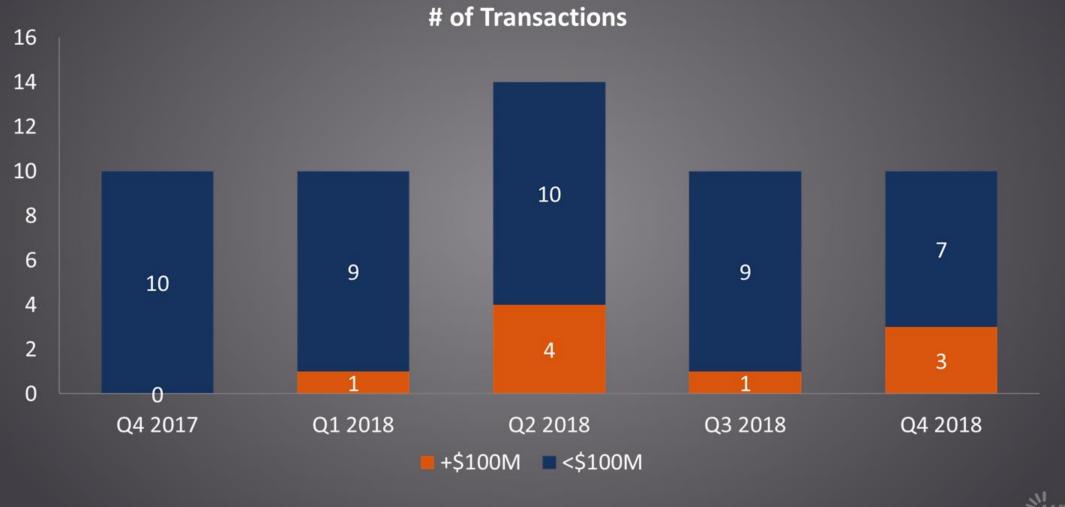
U.S. Media & MarTech M&A Activity by Sector



15 Source: LUMA

- Despite decline in total deals, year-over-year deal value nearly doubled between Q4 2017 and Q4 2018, as Q4 saw over \$12B in transactions
- MarTech companies made up the largest portion of deals and the largest deals in 2018, accounting for over \$10B in Q4 alone
- Ad Tech companies remain the laggard behind Digital Content and MarTech companies, as only 42 deals were made this year, compared to 2017's 49

Ad Tech M&A Activity



16 Source: LUMA

Observations:

- 2018 was another slow year for Ad Tech, as lack of scale and differentiation among VC funded companies makes it difficult to find strategic outcomes
- > The largest exit this year came for one of Ad Tech's leaders, AppNexus, as it was acquired by AT&T for \$1.6B
- Digital audio also came on the scene, with three scaled exits, as AdsWizz, Triton Digital, and Jelli all realized strategic outcomes

Looking Ahead: We expect a decline in scaled Ad Tech M&A as a multi-year consolidation continues and fewer differentiated, scaled companies remain independent

Ad Tech –2018 Notable Deals

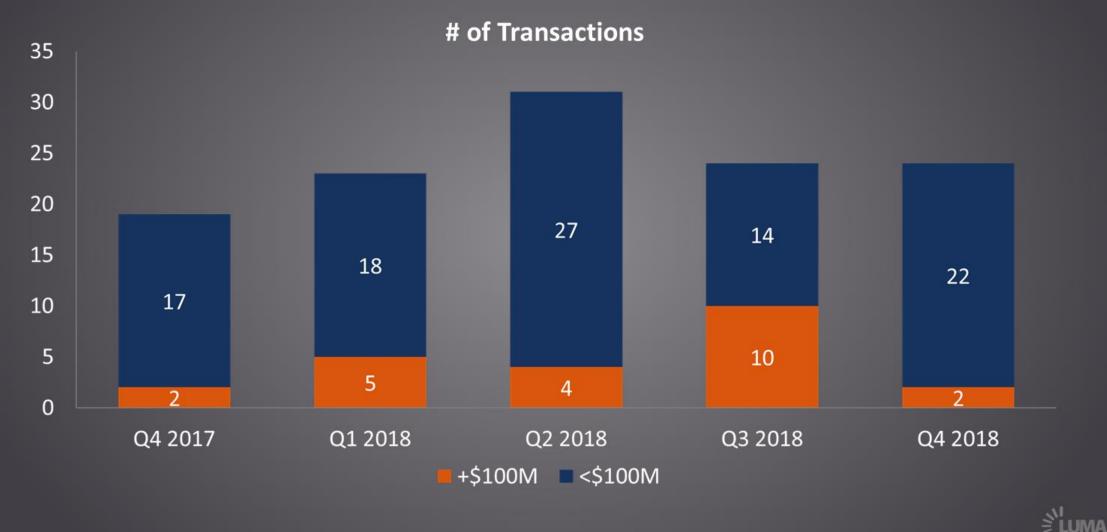
	Acquirer	Capital Raised	Enterprise Value	Comments
adswizz	pandora	\$2.9M	\$147M	In the first programmatic audio advertising deal, Pandora acquires a leading platform with DSP, SSP, and ad serving capabilities
AERSERV		\$2M	\$90M	By acquiring the inventory and audience monetization tech platform, InMobi enhances monetization capabilities for US publishers
K AppNexus	🥞 at&t	\$344M	\$1,600M	With its third \$1B+ acquisition over the last three years, AT&T plants its flag as a competitor to the duopoly
🛷 Jelli	() iHeart	\$45M	NA	The third scaled programmatic audio deal in 2018 came as the programmatic OTA audio platform, Jelli, is picked up by iHeart as it undergoes bankruptcy
MAX	م APP LOVIN	\$3.5M	NA	AppLovin acquires in-app header bidding innovator MAX following its \$400M debt financing from KKR
GHTYHIVE	54	\$2.9M	\$150M	In Sir Martin Sorell's S4 Capital's second agency acquisition, it acquires the Walled Garden programmatic agency and its \$25M in revenues
	SCRIPPS	NA	\$150M	Scripps takes its place at the programmatic audio table with the acquisition of the digital audio infrastructure and measurement company, Triton
Svideology	AMOBEE	\$233M	\$119M	Amobee wins the bankruptcy auction for Videology and expands its Convergent TV capabilities

17 Source: Pitchbook; Crunchbase; AdExchanger; The Wall Street Journal; Tech Crunch



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MarTech M&A Activity



18 Source: LUMA

Observations:

- If 3Q18 was the "Summer of Data", 2018 was the "Year of MarTech" as 21 companies realized \$100M+ exits
- This year witnessed multiple \$1B+ outcomes for MarTech companies, notably: Marketo, Magento, SendGrid, Qualtrics, and Episerver

Looking Ahead – Most Active Buyers:

- > Marketing Clouds continue to battle it out for market leadership, as Adobe, Oracle and Salesforce continue to buy vs. build
- > PE companies have proven to be major bidders for these companies, with some even willing to pay to strategic multiples

MarTech – 2018 Notable Deals

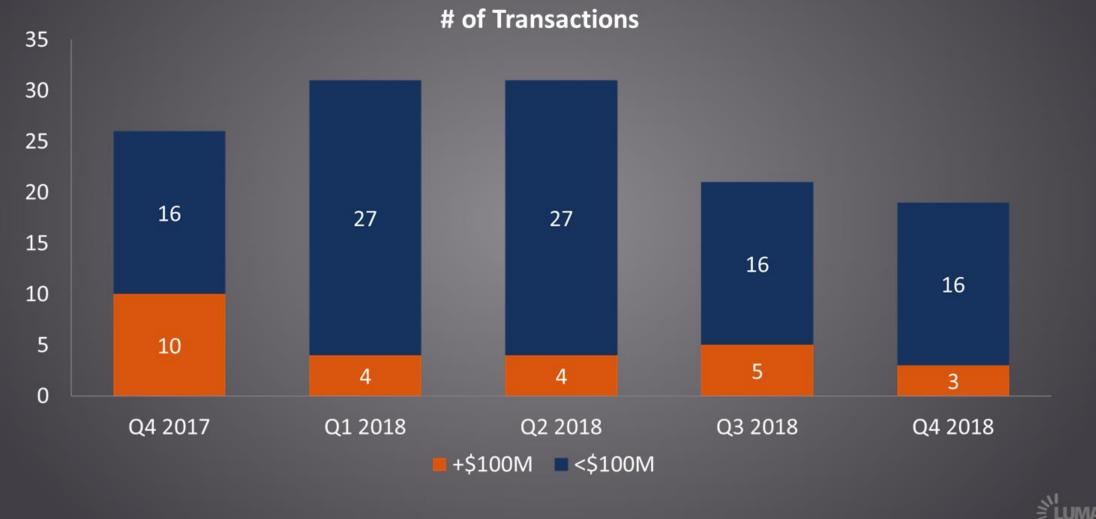
	Acquirer	Capital Raised	Enterprise Value	Comments
acxi@m	IG	NA	\$2,300M	IPG makes a big push into data-driven marketing with the acquisition of Acxiom Marketing Services, the managed service arm of Acxiom, spun out of the new LiveRamp
🕼 datorama	salesforce	\$51M	\$850M	Salesforce gains enhanced data intelligence and integration across all touchpoints, with the addition of Datorama to its marketing cloud
epi	INSIGHT	NA	\$1,250M	With Insight's large stake in the, "global digital transformation" market, it gets the merged entity of EPIserver and Ekton sponsored by Accel-KKR in 2015
grapeshot	ORACLE	\$10M	\$325M	Oracle gets ahead of GDPR in its acquisition of UK-based brand-safety technology provider, Grapeshot, as well as bolstering its Data Cloud on top of Moat
LAS Integral Ad Science	VISTA EQUITY PARTNERS	\$81M	\$850M	Vista's acquisition of IAS marked the third exit of the three scaled ad tech verification companies, following the acquisitions of Moat and DoubleVerify the year prior
Magento [®]	🔼 Adobe	\$250M	\$1,700M	In an effort to compete with Salesforce, Adobe acquires Magento for its B2C and B2B e- commerce capabilities, enabling Adobe to "close the loop" with consumers
Marketo	🖪 Adobe	NA	\$4,800M	In Adobe's largest acquisition ever, it gets the previously Vista-owned marketing automation company, Marketo, and fills an important gap in the Experience Cloud
qualtrics	SAP	\$400M	\$8,000M	In the largest software acquisition ever, SAP acquires Qualtrics ahead of the company's planned IPO to combine and leverage operational and experience data for customers
SendGrid	🙂 twilio	NA	\$2,000M	Just a year after its IPO, the email API provider, SendGrid, is picked up by Twilio with the hopes of building the leading developer focused communications platform
TREASURE	ARM	\$55M	\$600M	The first exit out of the CDP space, Treasure Data was acquired by existing backer, SoftBank's ARM. This deal signals deals to come for the other scaled, independent CDPs

19 Source: Pitchbook; Crunchbase; AdExchanger; The Wall Street Journal; Tech Crunch



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Digital Content M&A Activity



20 Source: LUMA

Observations:

- Q4 2018 saw a sharp decline in sizable digital content deal-making, as only Glint, SiriusDecisions, and Time Inc traded for over \$100M
- The consolidation of digital media continues to be a tale of two cities, as we've seen both scaled exits (i.e Pandora / SiriusXM for \$3.5B), as well as once high-fliers trading for nearly nothing (i.e. Mic / Bustle for \$5M)

Looking Ahead – Over-funding Windfall:

> We expect this trend of digital-first pubs trading at low multiples to continue due to challenged monetization of audiences

Digital Content – 2018 Notable Deals

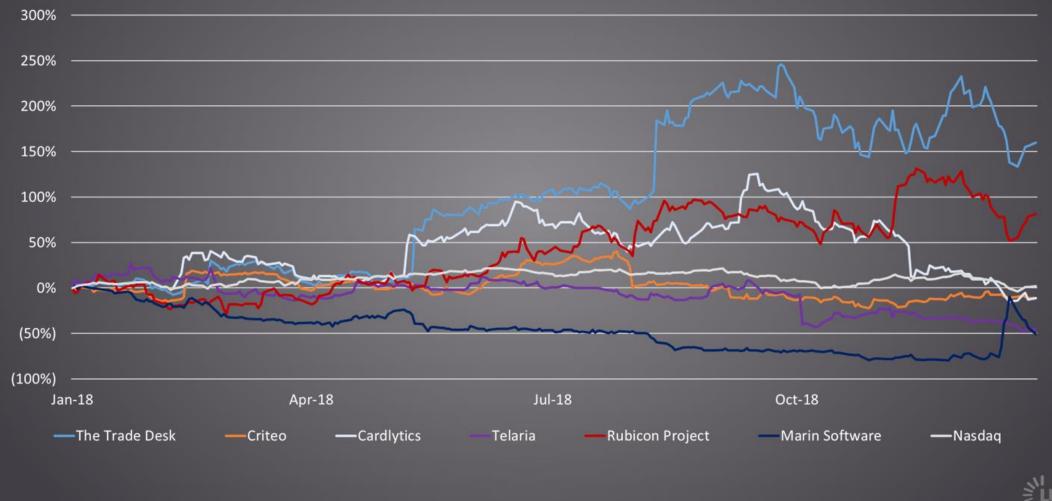
	Acquirer	Capital Raised	Enterprise Value	Comments
Cafe media		\$32M	\$253M	The media-focused PE company acquires the parent of Café Media and its network of blog properties and commits to digital pub monetization
FORTUNE	Chatchaval Jiaravanon	NA	\$150M	Once a founding brand of Time Inc., Fortune magazine is the next publisher acquired by a billionaire, this time Thai businessman Chatchaval Jiaravnon
GLINJ	Linked in 👫 Microsoft	\$80M	\$400M	LinkedIn snatches up Glint to combine LinkedIn's insights into the larger workforce with Glint's internal view into employee engagement and skills
🕅 massive	Contraction Contractica Contra	\$3.6M	\$127M	Bruin backed Deltratre acquires UK-based OTT UX service provider Massive Interactive to help media companies build & operate OTT platforms
	<i>i</i> at&t	\$500M	\$1,000M	AT&T buys out the remainder of its JV with the Chernin Group in an effort to expand its digital video content portfolio
pandora	((SiriusXM)))	NA	\$3,500 M	This multi-billion dollar merger creates an audio entertainment company with the scale and technology to rival Spotify
Purch	J L FUTURE 7 F	\$179M	\$133M	UK publisher Future expands into the US by acquiring digital content and technology provider Purch
QUARTZ	U Z A B A S E	NA	\$110M	The Atlantic Media property is divested to Japanese entrepreneurs looking to expand their global newsroom footprint and boost subscription revenues
TIME	Marc & Lynn Benioff	NA	\$190M	Marc Benioff's newest project is Time Magazine, the 100+ year old American magazine, which he plans to save with millions of his own dollars

21 Source: Pitchbook; Crunchbase; AdExchanger; The Wall Street Journal; Tech Crunch



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Ad Tech – 2018 Stocks Performance



22 Market Data as of 12/31/2018

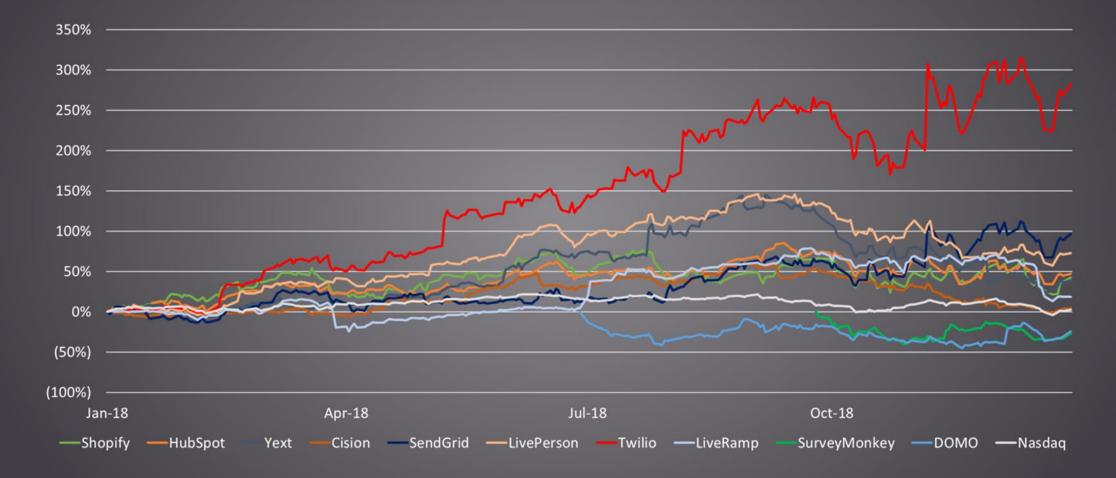
Observations:

Ad Tech remains a poor performer in the public markets, as total market value has declined ~10% this year when excluding The Trade Desk

Highlights:

- > The Trade Desk is, without a doubt, the clear winner in the space, as market value rose as high as \$6.4B (or 232%) this year.
- The Rubicon Project has been a surprise success in 2018, increasing market value over 80%

MarTech – 2018 Stocks Performance



23 Market Data as of 12/31/2018

Observations:

> MarTech had an incredibly strong year, with all non-IPO stocks rising and the sector increasing nearly 50%

Highlights:

- SurveyMonkey and DOMO IPO'd this year, popping 44% and 30%, respectively, on their first day trading. However, with significant market volatility and an overall tech sell-off both companies have come down over 25% from those highs
- Twilio was the biggest winner this year, as their market value has sky-rocketed 282% alongside the announced merger with SendGrid

2018 Key Startup Financings to Watch

	Lead Investor	Capital Raised	Valuation	Comments
	SEQUOIA 🖻	\$80M	\$850M	Amplitude more than doubled its valuation and now serves more than 600 corporate and enterprise customers – it will use the \$80M to scale global operations and build out its solution-set
	KKR	\$400M	\$2,000M	AppLovin raised its valuation to \$2B and currently reaches over 300M DAUs and drives over 1B downloads for gaming companies per year
⊘ bouncex	BV. Battery Venues	\$37M	NA	BounceX, a people-based marketing cloud, raised more capital in this growth round to accelerate its expansion in the U.S. and the U.K.
braze	MERITECH	\$80M	\$850M	Braze more than doubled its valuation to \$850M and currently delivers tens of billions of messages to over 1.58 MAUs globally
😣 cuebiq	Goldman, Nasdaq, DRW, Tribeca Ventures	\$33M	NA	Cuebiq, growing a reported 3x from a revenue perspective, raised \$33M to fund expansion, development, and advancement of key data privacy initiatives
🕖 Dynamic Signal	Adams Street Partners, Akkadian Ventures, Cisco Investments	\$47M	\$300M	Company communications & engagement platform Dynamic Signal raised nearly \$50M to fund platform development, deeper integrations with third-parties, and pursuit of an aggressive hiring plan
📮 factual.	upfront	\$42M	NA	Location data platform Factual raised \$42M and will use this latest round to accelerate growth and international expansion
fubo	21 st Century Fox, Scripps Networks Interactive, AMC Networks	\$75M	NA	Sports streaming service FuboTV has raised more capital from a variety of media companies including AMC, Fox, and Sky to grow its offerings
iSpot.tv	INSIGHT	\$30M	\$355M	TV measurement and analytics company, iSpot.tv, brings its total funding to over \$55M as it looks to expand its team of 155 to 200+ in 2019
(MediaMath)	SEARCHLIGHT	\$225M	\$1,000M	MediaMath, which is now valued at over \$1B, will use this funding to make select acquisitions and develop new product offerings
PEBBLE POST	AVP	\$31M	\$124M	Programmatic direct mail company PebblePost raises \$31M to fund efforts expanding partnerships and entering new verticals
😡 naruar	Accel	\$30M	\$345M	With \$30M of fresh-funding, the retail technology provider will invest in development of e-commerce software as retailer clients pursue improved consumer online experience
 singular 	NORWEST VENTURE	\$30M	NA	Marketing intelligence platform Singular raised \$30M geared towards accelerating product development and innovation
SOJERN	TCV	\$120M	\$300M	Sojern, a marketing technology and data company, plans to use its \$120M of TCV money to accelerate development and expand capabilities for Fortune 500 travel co's

24 Source: Crunchbase, Pitchbook. Includes only US-based companies who raised \$30M+ in 2018



LUMA's Differentiated Value Proposition

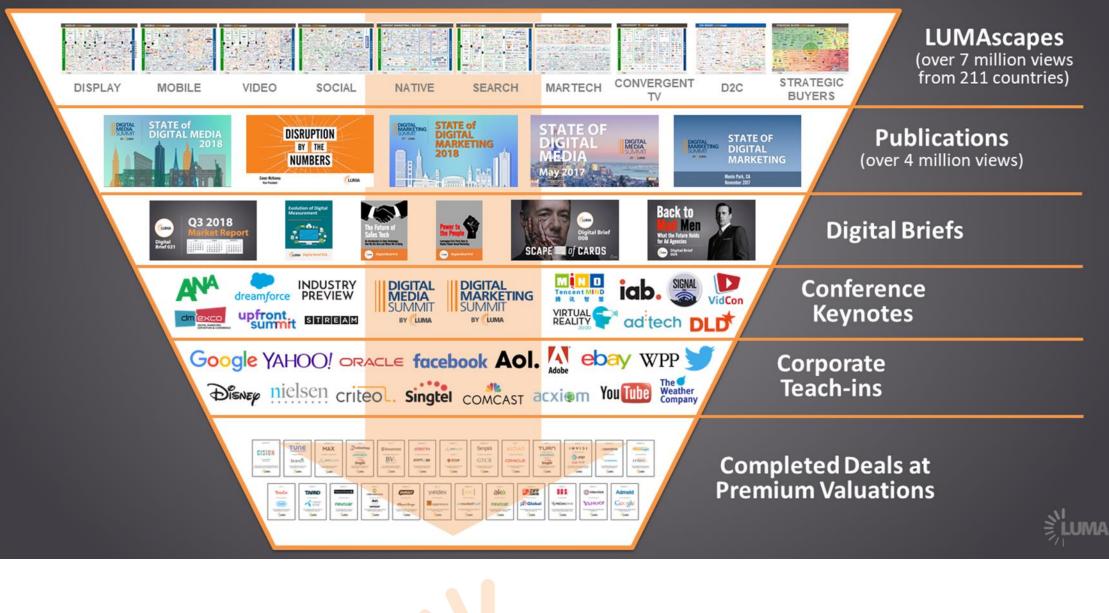


- Peerless Industry Knowledge
 Strategic Approach
- 3. Execution Excellence





LUMA's Content-Driven, Expert-Based Approach



2

LUMA's Recent Deals







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