

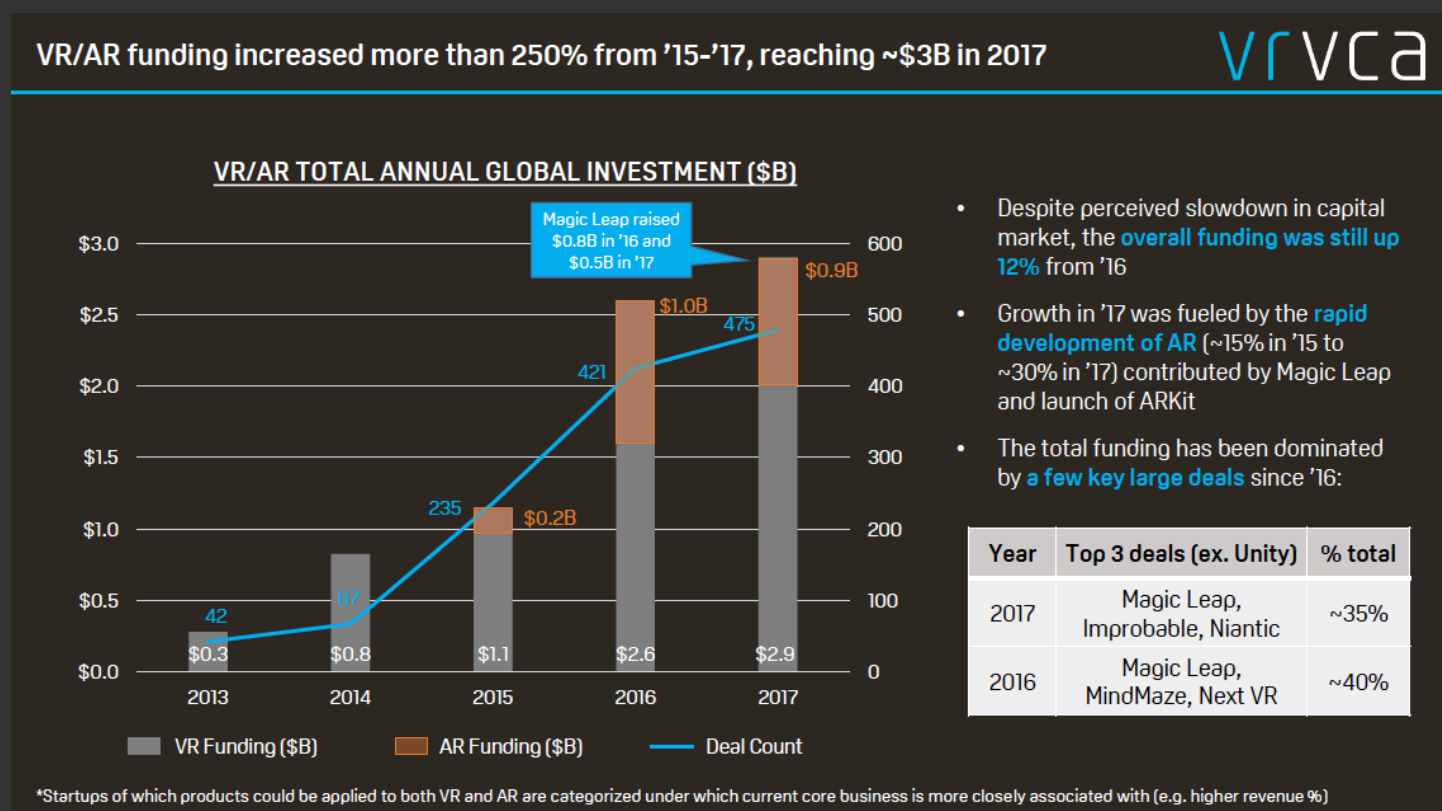
ARTILLY DATA BRIEFS

XR FUNDING DATA & TRENDS

3/19/18

AR and VR sectors received \$3 billion in venture funding in 2017, which is up 12 percent from 2016 and 3x from 2015. This is according to a new report from VRVCA.

That's the good news. The slightly-less positive news is that funding was consolidated to a few outliers like Magic Leap, Improbable and Unity. But it's also notable that outside of those deals, the rest of the market is seeing larger seed rounds and less series A rounds.



As for the deal composition, “building block” technologies continue to attract venture dollars, for all the reasons we recently examined. In this case hardware and “tools & tech” received 70 percent of funding. Enterprise XR meanwhile saw the greatest quantity of deals with 52 percent.

The bad news is that there continues to be a shakeout due to a funding crunch. There is a fall off in companies that receive seed funding and then are able to secure series A rounds. This has been exacerbated by soft consumer adoption, which has in turn tempered investor hunger.

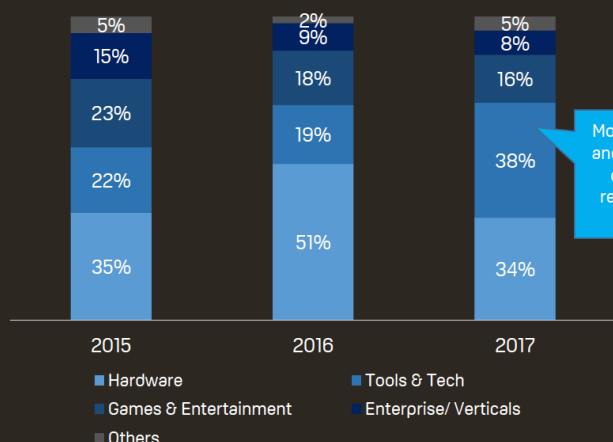
The path to revenue is also longer for XR startups which has lessened series A deals — typically the stage where clearer and impending revenue and product/market fit needs to be validated. Companies are also raising bigger seed rounds as noted, which allays Series A needs.

**Tools & Technologies, as well as Hardware attracted most investment;
Enterprise sector is also rising quickly**

VRVCA

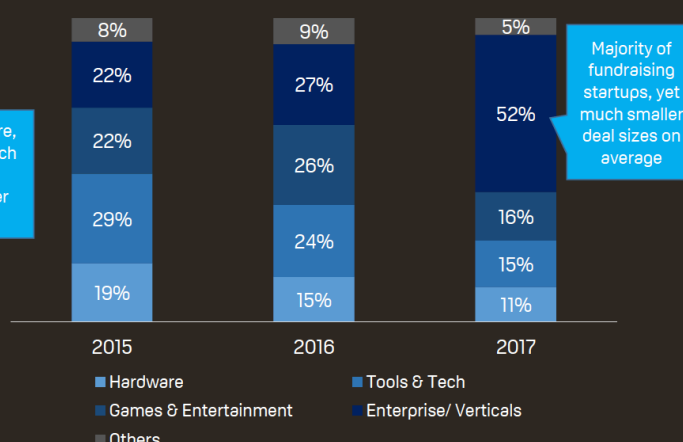
HARDWARE, TOOLS/ TECH DREW >70% OF FUNDING

VR/AR GLOBAL DEAL **AMOUNT** BY SECTOR
(%, 2015-2017)



ENTERPRISE DEAL INCREASED BY 5X

VR/AR GLOBAL DEAL **COUNT** BY SECTOR
(%, 2015-2017)



*Startups of which products could be applied to multiple sectors are categorized per the form most of their products are delivered in (e.g. enterprise services, hardware modules)

There's also limited exit potential, with only a few likely acquirers — the usual suspects building XR arsenals (Google, Apple & Microsoft). And there again, its all about “building block” technologies. Deals are typically under \$100 million with a 20x average investor return.

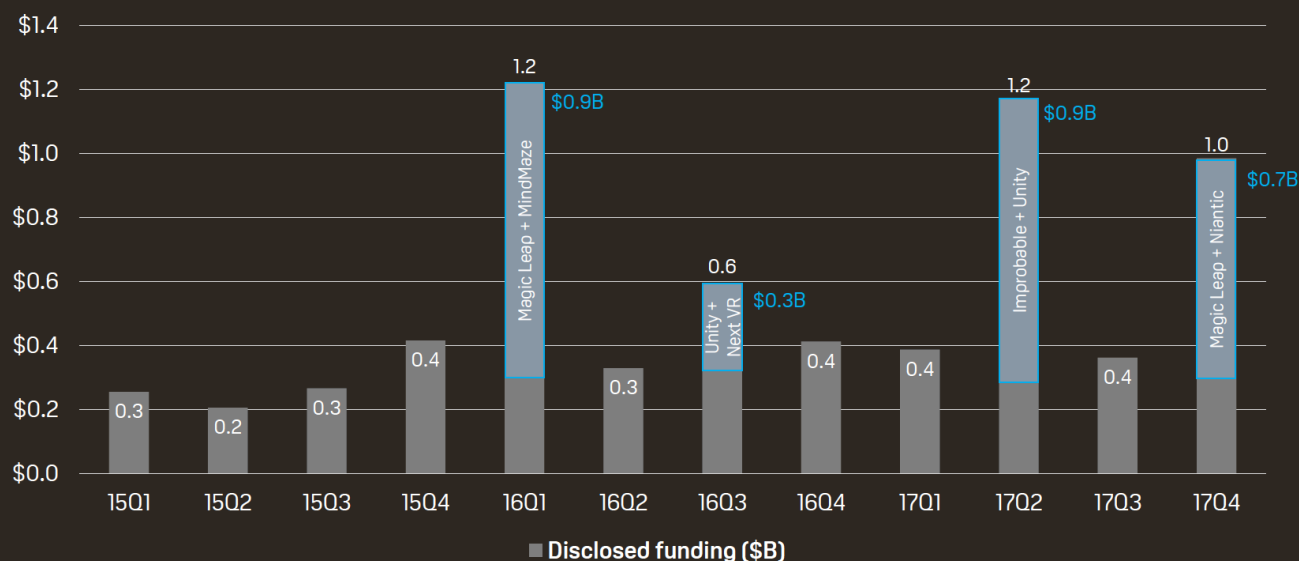
Looking forward, the majority of investors (67 percent) polled believe that overall funding levels will be flat, year-over-year. But the positive signals include continued investment from tech giants, as well as consumer adoption accelerants like standalone VR, as we've examined.

See more highlighted data points below, and stay tuned for lots more data and analysis from ARtillery Intelligence. You can also see our Intelligence Briefing on venture funding dynamics in the XR sector. That report is in the “Monthly Intelligence Briefings” folder of the ARtillery Insights subscriber portal.

Steadily growing with large spikes in 17Q2 & Q4 driven by a few high ticket deals

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VR/AR GLOBAL INVESTMENT BY QUARTER (\$B)



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Select key VR/AR deals in 2017

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Company	Segment	Country	Round	Funding raised (\$M)	Select investor(s)
Magic Leap	Hardware	United States	Series D	\$502	Temasek, EBDI, Alibaba, Fidelity Investments, T. Rowe Price
Improbable	Enabling Tech	United Kingdom	Series B	\$502	Andreessen Horowitz, Horizons Ventures, SoftBank
Niantic	Games	United States	Series B	\$200	Spark Capital, NetEase Capital, Founders Fund
Lytro	Hardware	United States	Series D	\$60	Blue Pool Capital, Andreessen Horowitz, EDBI
Leap Motion	Enabling tech	United States	Series C	\$50	Andreessen Horowitz, Founders Fund, JPMorgan, SOSV
Cocacaa VR	Hardware	China	Series B	\$46	Tencent
Within	Entertainment	United States	Series B	\$40	Temasek, WPP, 21 st Century Fox, Andreessen Horowitz
51VR	Enterprise	China	Series B	\$32	Modernland, Sensetime, Lightspeed China, Songhe Capital
Plex-VR	Enterprise	China	Series A	\$30	Alibaba, GSR Ventures, SAIF Partners
Noitom	Hardware	China	Series C	\$30	Legend Capital, Haitong Kaiyuan
Dreamscape Immersive	Enterprise/ Location-based	United States	Series B	\$30	AMC
HiScene	Hardware	China	Series B	\$15	Seekdource Capital, V Star Capital, Meitu
Two Bit Circus	Enterprise/ Location-based	United States	Series B	\$15	Jazz Venture Partners, Intel Capital, Foundry Group
Atheer	Enterprise	United States	Series C	\$12	Signatures Capital, Streamlined Ventures, Shanda

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Top 15 active VC investors in VR/AR completed ~150 deals in 2017

Ranking	Investor	Key country	Deal no.	Investment (US\$)	Deal examples
1	VIVE X (ex. HTC)	Global	56	Undisclosed	7invensun, The Rogue Initiative, Limitless, Neurable
2	Presence Capital	United States	23	~3M	TRIPP, AppliedVR, 6D.ai, Torch3D, Escher Reality
3	(Tokyo, Seoul, Nordic) VR/XR Startups	Japan, Korea, Nordic	16	~2M	Pretia, Graffity, Mikai, HipFire Games
4	The Venture Reality Fund	United States	10	~9M	Torch3D, 8 th Wall, Sliver.tv, Immersv, Vizor
5	Outpost Capital	United States	8	~10M	UploadVR, The Rogue Initiative, Fable Studio
6	Colopl Next	U.S./ Japan	6	~3M	Bigsreen, Floreo, 3rd Eye Studio
7	Andreessen Horowitz	United States	6	>100M	Improbable, Lytro, Bigsreen, Within, Leap Motion
8	GFR Fund	U.S./ Japan	5	~2M	Torch3D, Streem
9	Boost VC	United States	5	~1M	Vizor, Karobi, Pixelbug, VRART, Galatea
10	Bertelsmann Asia Investment	China	5	~10M	Hypereal, VeeR, AstroReality, Skybox
11	Songhe Capital	China	5	~6M	Growlib, Vanimals, Chengdu DDD, VRSpy
12	Dingxiang Capital	China	5	~5M	ShapeJoy, Asucat, EscherVR
13	UCCVR	China	4	~4M	Polyarc, Future Chukong, Micosmic, MeetVR
14	Greycroft Partners	U.S.	4	~3M	UploadVR, Camera IQ, The Wave VR, LiveLike
15	Super Ventures	United States	4	Undisclosed	Quantum Capture, Gravity Sketch, Fable Studio

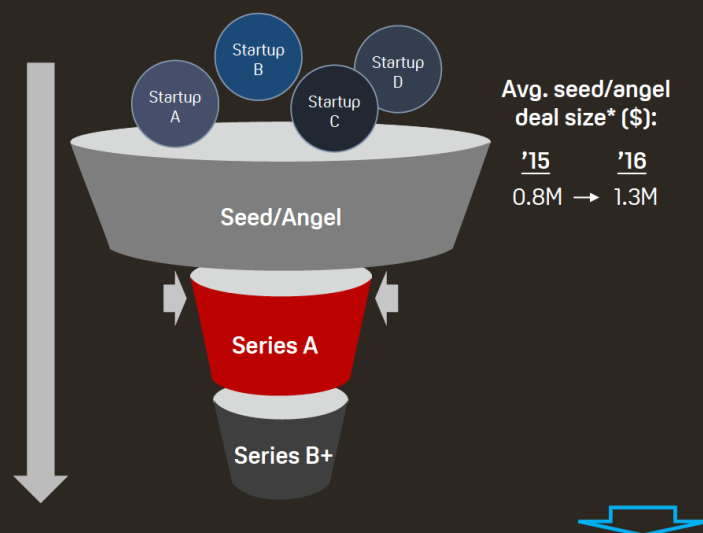
*Based on public data and VC inputs; Exclude corporate direct investments and generalist incubators; Rank in order of deal counts completed in 2017

New funds with specific targets within VR/AR are also being set up

Fund name	Fund size (\$M)	Investor	Investor type	Target VR/AR segment
Samsung NEXT Fund	150	Samsung	Technology	General
NetEase VR/AR Fund	315	NetEase	Games	US-based, Tech & Games
Colopl VR Fund 2	50	Colopl	Games	General
AET Fund	50	Akatsuki	Games	Entertainment
GFR Fund (previously GREE VR)	18	GREE	Games	AR/MR applications
Kaleidoscope Fund	3	Kaleidoscope	Entertainment	Premium VR content
MTG Fund	30	Modern Times Group	Entertainment	Games
XR Basefund	60	2SQRS, VRBASE, Ariadne Capital	Tech incubators	Europe-based software
Shasta Camera Fund	Undisclosed (\$100K per deal)	Shasta Ventures	Venture capital	Camera, Computer-vision
Premier Ventures	150	Shenzhen government, HTC	Government	Mostly China-based
Qingdao Gov't VR Fund	75	Qingdao government	Government	China-based
Korea Gov't VR Fund	35	Korea government	Government	Korea-based

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...driven by long validation cycle, limited bridging capital and deal size inflation



- **Long validation cycle for product-market-fit:**
It takes longer for VR/AR startups to prove the PMF (e.g. DAU, paying customers, revenue) required for Series A given the slow uptake in hardware penetration and limited business models
- **Limited Series A capital:**
Many of the most active VR/AR investors are focused on early-stage, and have limited appetite for leading Series A or later rounds
- **Deal size inflation:**
Startups are raising bigger seed rounds and thus delaying Series A funding

Post-seed startups need to be more flexible in funding strategies

*Exclude incubator financing or alternative instruments (e.g. small bridge loan, options, etc.) in average deal size calculation

Limited exit channels in the next 2-3 years, talent/ technology acquisition as key form

- The industry is still in its early stage, with very limited channels and cases of exits observed
- **Talent/ technology acquisition** is expected to remain the **dominant form** of exit as giants like Apple and Microsoft are accelerating their VR/AR product roadmap and snapping up technology reserves. Most transactions would be under <\$100M for such exits. The key areas they may be interested: **Display and optics, computer vision, tracking, user interactions, VR/AR development tools**
- IPO is possible only for very few large-scale, late-stage (typically hardware) companies who have steady revenue. The companies who might opt for this path either passed their highest growth period, or have a valuation is too high for primary placement to support

SELECT EXIT EXAMPLES

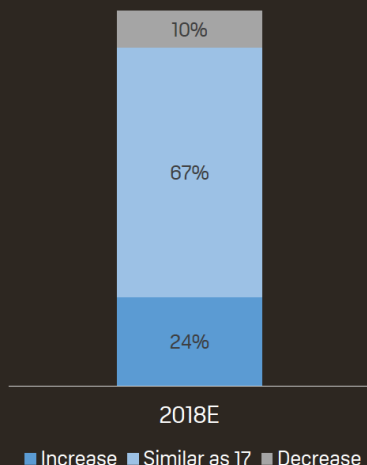
Target	Core business	Acquirer	Exit type
SMI	Eye-tracking technology	Apple	Technology acquisition
Vrvana	Mixed Reality headset maker	Apple	Technology acquisition
Nitero	60GHz wireless chip maker	AMD	Technology acquisition
Owlchemy Labs	VR games	Google	Strategic/talent acquisition
AltspaceVR	VR social	Microsoft	Strategic acquisition
Kid Neon Studio	VR design and production studio	Deloitte	Strategic acquisition

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Most investors expect total investment in '18 will further increase or stay at similar level

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Q: Would you forecast the 2018 total funding to increase/ stay at par/ decrease?*



		Likelihood
KEY DRIVERS	1) Tech giants (e.g. Apple, Facebook, Google, Microsoft, Samsung) continue to announce new moves and investments in the industry	●
	2) VR/AR continues to receive strong attention on mass media (e.g. movies, TV shows, VR version of blockbuster content, etc.)	●
	3) Fast adoption of mobile AR (ARKit & ARCore) in terms of enabling-devices and by developers	◐
	4) A few high valuation startups continue to raise large rounds in 2018	◐
	5) Strong sales momentum from affordable, high performance standalone VR HMDs	◐
	6) Several AR glasses (e.g. Magic Leap) launch and performance living up to the high expectation	◐

*We asked 21 active investors whether they expect to see more investments in 2018 & why

● High likelihood ◐ Low likelihood

Video Companion: Takeaways From XR Investors

(click URL to open)

<https://youtu.be/CORrrj0JaWM>



About ARtillery Intelligence

ARtillery is a publication and intelligence firm that examines augmented reality and virtual reality, collectively known as XR. Through writings, data and multimedia, it provides deep and analytical views into the industry's biggest players and opportunities. It's about insights, not cheerleading.

Run by career analyst and journalist Mike Boland, coverage is grounded in a disciplined and journalistic approach. It also maintains a business angle: Though fun and games permeate VR and AR (especially the former) long-term cultural, technological and financial implications are primary.

Learn more at <https://artillery.co/about>



About the Author

Mike Boland was one of Silicon Valley's first tech reporters of the Internet age, as a staff reporter for *Forbes* (print) starting in 2000. He has been an industry analyst covering mobile and social media since 2005, and is now Chief Analyst of *ARtillery Intelligence*, covering emerging tech.

Mike is a frequent speaker at industry conferences such as VRLA, ad:tech and LeadsCon. He has authored in-depth reports and market-sizing forecasts on the changing tech & media landscape. He contributes regularly to highly read online news sources such as *TechCrunch*, *Business Insider* and the *Huffington Post*.

A trusted source for tech journalists, his comments have appeared in A-list publications, including *The New Yorker*, *The Wall Street Journal* and *The New York Times*.

Further background, history and credentials can be found at:

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Contact

Questions and requests for deeper analysis can be submitted at:

<https://artillery.co/contact/>



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