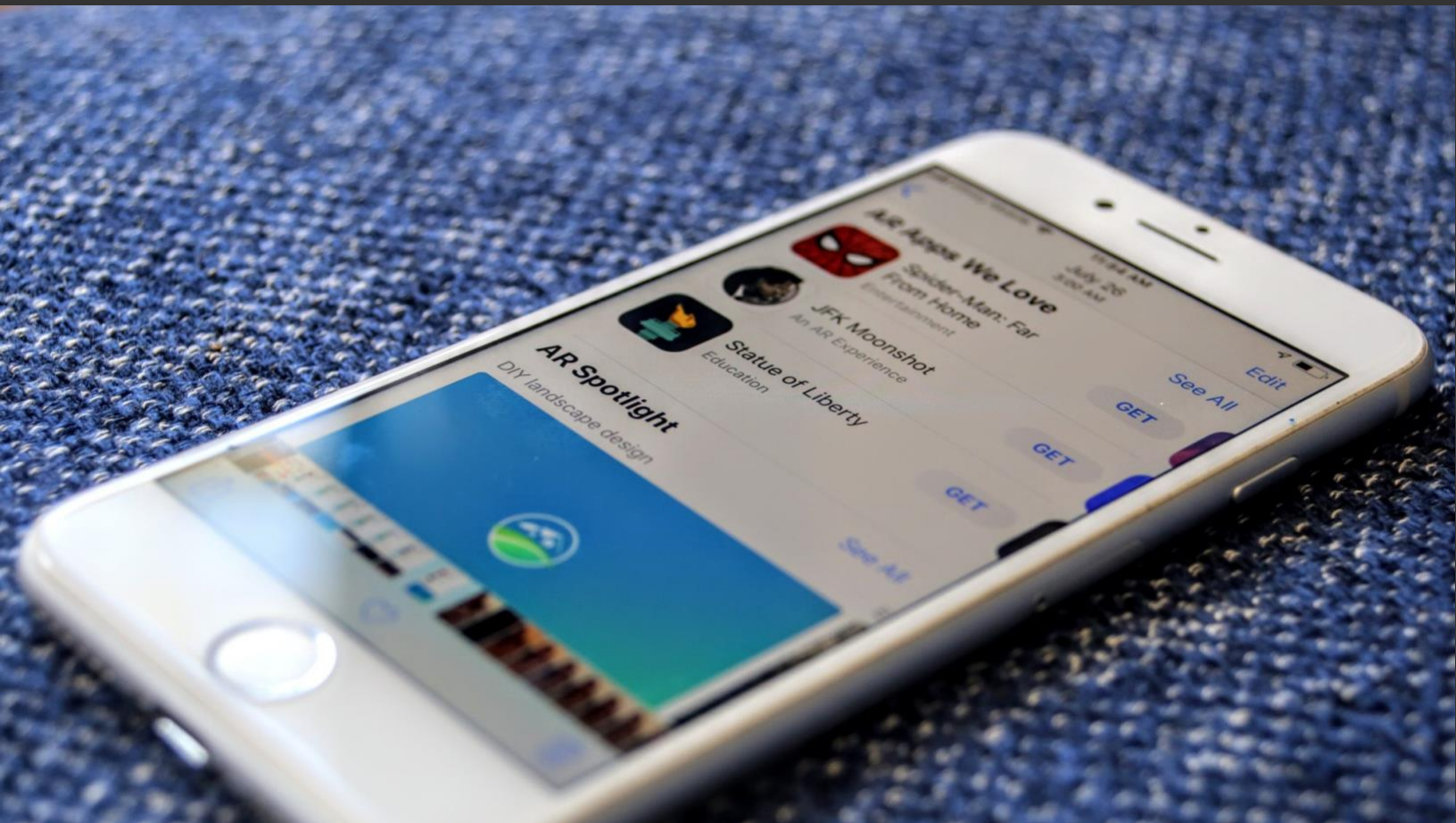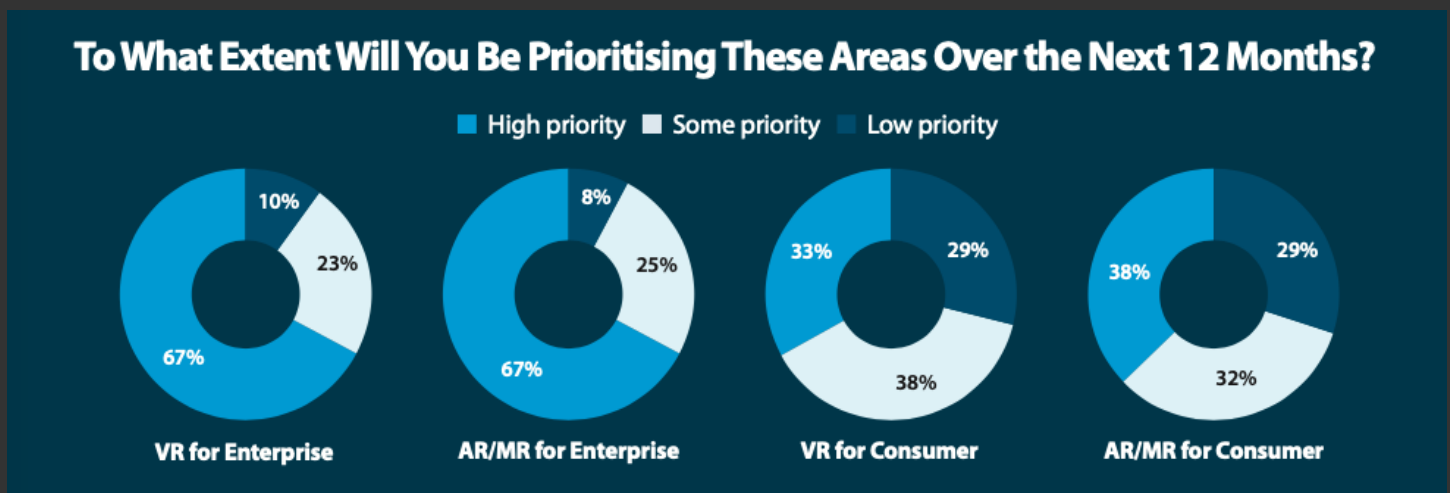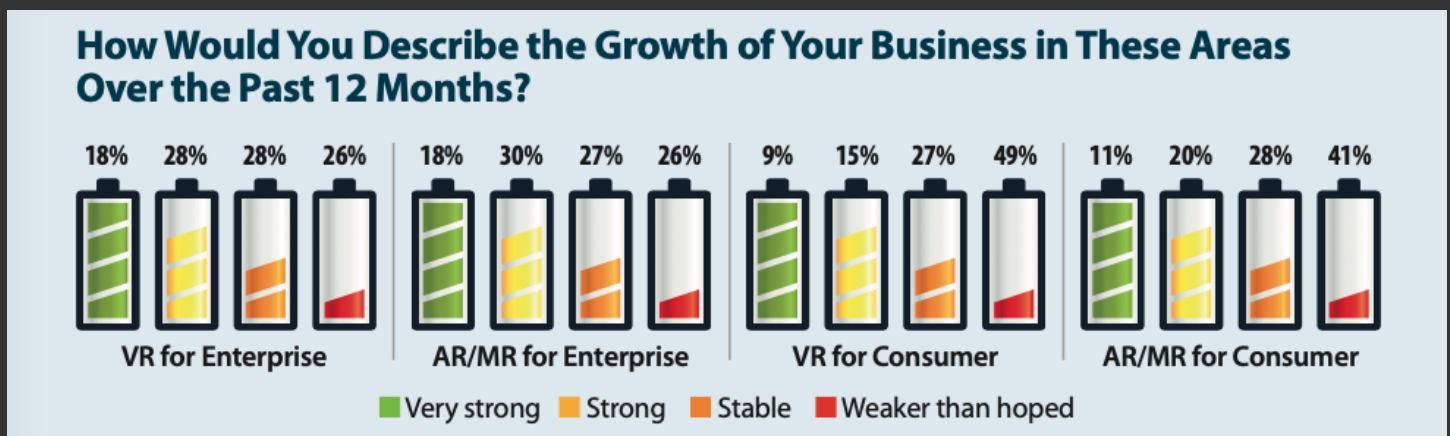# ARtillery Data Brief

Industry Health Check: XR Execs Speak
10/28/19

One of the many ways to get a temperature of industry health is to survey its executives on adoption and spending levels. This can have some "aspirational" results, but if taken directionally and with a grain of salt, executive surveys can provide real insight.

With that backdrop, VR Intelligence launched its latest survey to prime the pump for its December VRX conference. This follows our recent analysis of XRDC's similar industry survey, and the two can be used together for more data points and to triangulate trends.
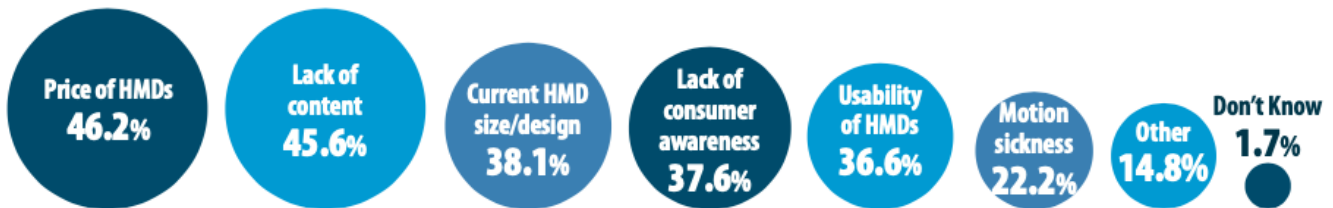
Among the results, one macro trend that emerged was the confidence execs have in enterprise AR and VR relative to consumer products. This isn't surprising given enterprise's well-documented early lead in XR (especially AR), compared to consumer adoption as a whole.

How Would You Describe the Growth of Your Business in These Areas Over the Past 12 Months?

	VR for Enterprise				AR/MR for Enterprise				VR for Consumer				AR/MR for Consumer			
	18%	28%	28%	26%	18%	30%	27%	26%	9%	15%	27%	49%	11%	20%	28%	41%

Legend: ■ Very strong ■ Strong ■ Stable ■ Weaker than hoped

To What Extent Will You Be Prioritising These Areas Over the Next 12 Months?

Legend: ■ High priority ■ Some priority ■ Low priority

VR for Enterprise: 10%, 23%, 67%
AR/MR for Enterprise: 8%, 25%, 67%
VR for Consumer: 33%, 29%, 38%
AR/MR for Consumer: 38%, 29%, 32%

It also should be noted that the survey sample skewed towards companies that are themselves building and focusing on enterprise AR and VR products (see infographic below). Nonetheless, the bullish attitude towards enterprise versus consumer is notable and somewhat expected.

Going deeper, price, content and hardware bulk were seen as the biggest barriers to consumer adoption of VR headsets. This notably aligns with the consumer survey data from our research arm ARtillery Intelligence, showing that these executives surveyed are in tune with consumers.
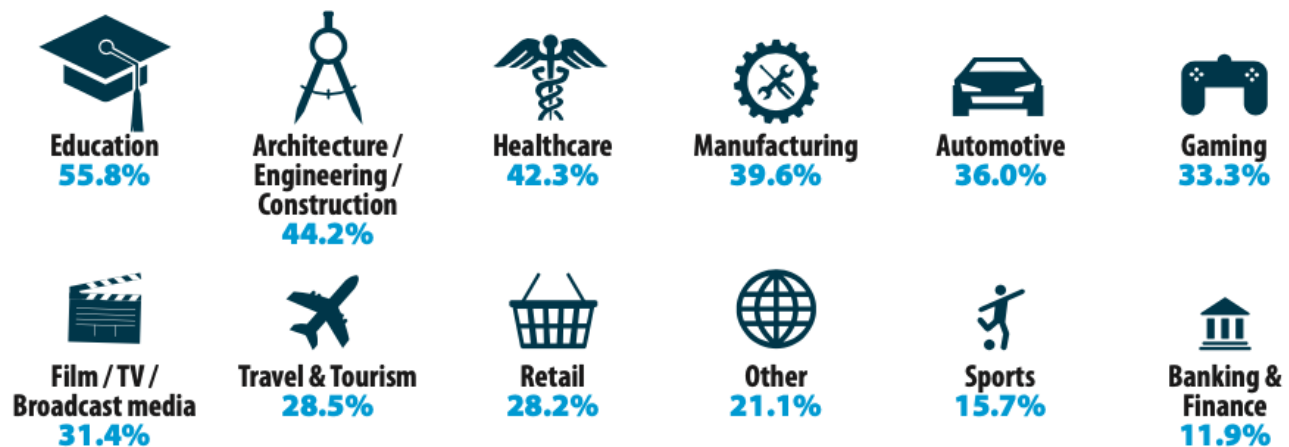
What Do You See as the Biggest Barrier to Mass Consumer Adoption of VR?

Price of HMDs 46.2%	Lack of content 45.6%	Current HMD size/design 38.1%	Lack of consumer awareness 37.6%	Usability of HMDs 36.6%	Motion sickness 22.2%	Other 14.8%	Don't Know 1.7%

Source: XR Industry Survey 2019

As for the verticals that hold the most promise, respondents (again, potentially biased towards their product) chose education, followed by AEC, healthcare, manufacturing, automotive and gaming. These align somewhat with our past analysis of adoption patterns across XR verticals.
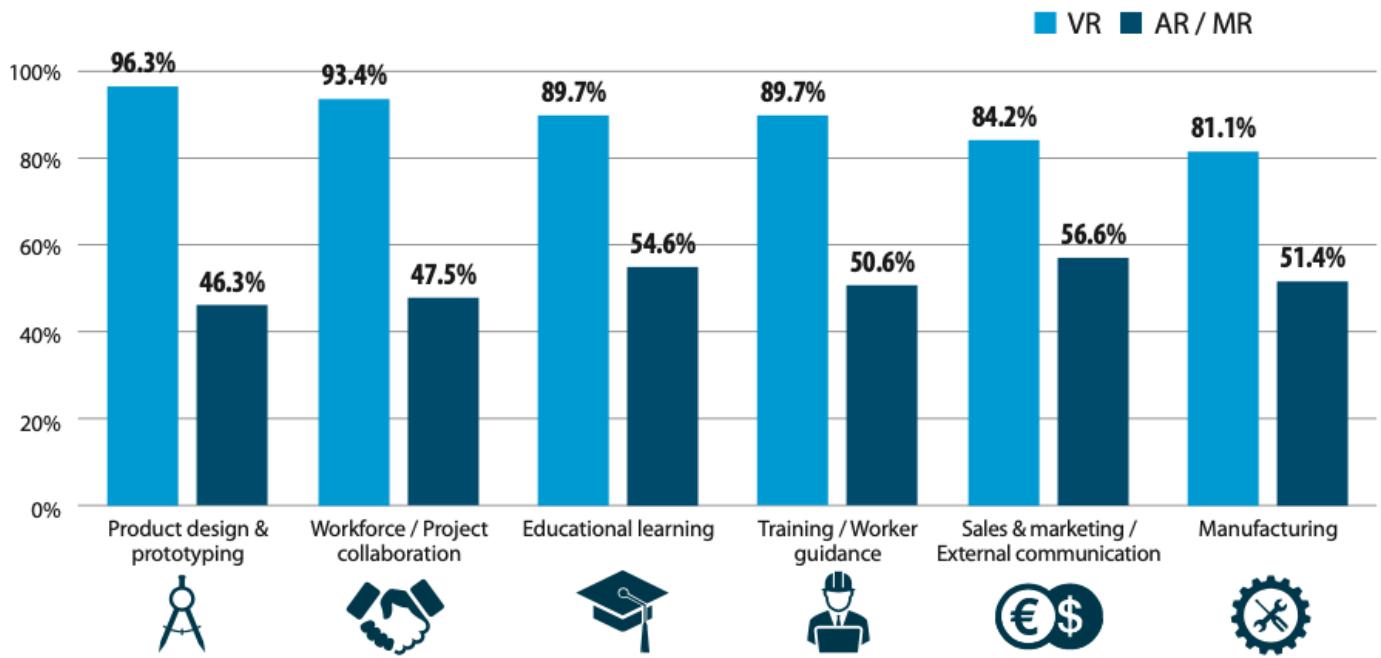
In Which of These Industries Do You Intend to Work in Over the Next 12 Months?

Education 55.8%	Architecture / Engineering / Construction 44.2%	Healthcare 42.3%	Manufacturing 39.6%	Automotive 36.0%	Gaming 33.3%
Film / TV / Broadcast media 31.4%	Travel & Tourism 28.5%	Retail 28.2%	Other 21.1%	Sports 15.7%	Banking & Finance 11.9%

Drilling down on the functions for AR and VR's intended use, product prototyping, workforce collaboration, educational learning and training unsurprisingly got the highest marks for VR. Meanwhile, sales & marketing, educational learning and manufacturing scored highest for AR.
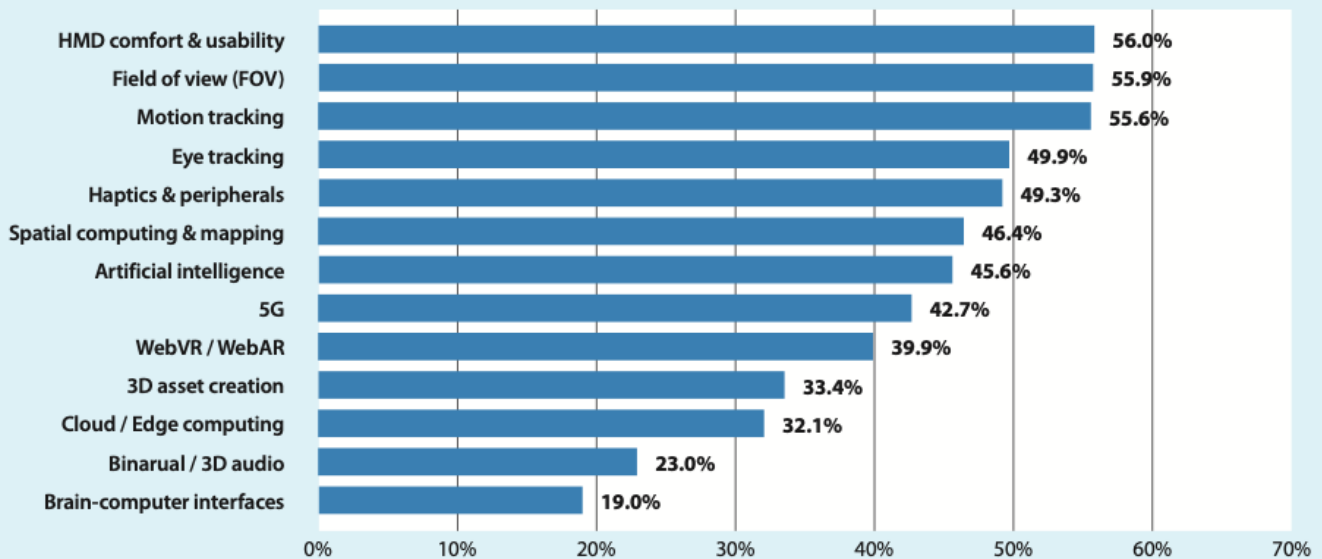
For product attributes and functionality that execs and their companies are prioritizing, headset comfort, field of view and motion tracking scored highest. These make sense as "table stakes" attributes that need to be solved in order to penetrate mainstream markets.

In Which of These Areas Do You Use XR in Your Business?

Legend: ■ VR ■ AR / MR

| Area	VR	AR / MR
Product design & prototyping	96.3%	46.3%
Workforce / Project collaboration	93.4%	47.5%
Educational learning	89.7%	54.6%
Training / Worker guidance	89.7%	50.6%
Sales & marketing / External communication	84.2%	56.6%
Manufacturing	81.1%	51.4%

As for timing to wide-scale consumer XR adoption, respondents predominantly chose 3-4 years. The adoption dynamics and technology life stages of course vary for AR and VR but these answers are still telling about XR execs (though inherently biased) optimism for time-to-market.

Which Components and Functions Do You Believe Are Most Important to Develop, Improve and Integrate for XR to Be More Widely Adopted?

| Component / Function	%
HMD comfort & usability	56.0%
Field of view (FOV)	55.9%
Motion tracking	55.6%
Eye tracking	49.9%
Haptics & peripherals	49.3%
Spatial computing & mapping	46.4%
Artificial intelligence	45.6%
5G	42.7%
WebVR / WebAR	39.9%
3D asset creation	33.4%
Cloud / Edge computing	32.1%
Binaural / 3D audio	23.0%
Brain-computer interfaces	19.0%

Related to the matter of timing is a question of when adoption trend lines between mobile AR and smart glasses will intersect. 44 percent believe it's in 2-3 years and 43 percent think 4+ years. A minority (5 percent) think within one year and 8 percent think it will never happen.

Source: XR Industry Survey 2019
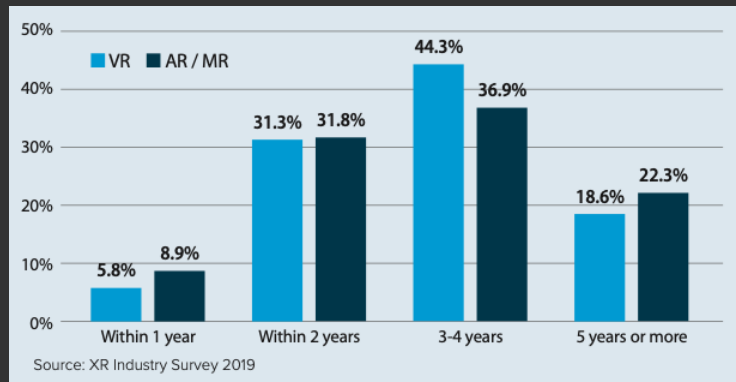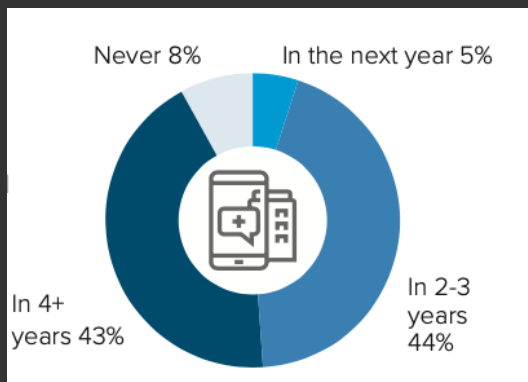
For enterprises not sold on AR and VR, a key question is "why not?" Top answers to that question were lack of understanding of benefits, and lack of ROI proof. AR has overwhelming proof of enterprise ROI gains, so these answers signal the need for more enterprise education.

We'll tack this up with the broader mosaic of XR industry data to continue triangulating top trends and their strategic implications.

What's Stopping You from Integrating VR or AR/MR into Your Business?

Source: XR Industry Survey 2019
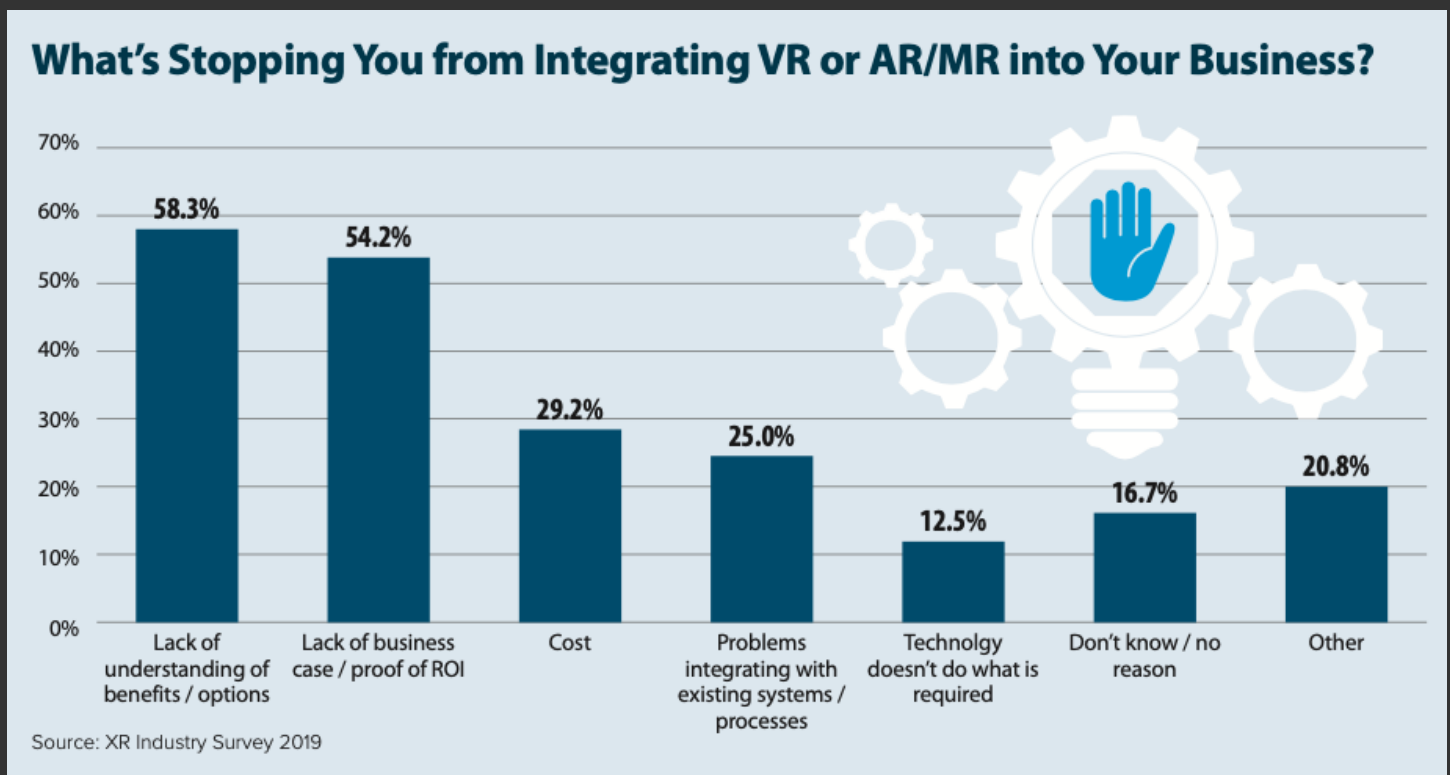
Video Companion

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About ARtillery Intelligence

ARtillery Intelligence chronicles the evolution of spatial computing. Through writings and multimedia, it provides deep and analytical views into the industry's biggest players, opportunities and strategies.

Run by analysts and former journalists, coverage is grounded in a disciplined and journalistic approach. It also maintains a business angle: Though there are lots of fun and games in spatial computing, cultural, technological and financial implications are the primary focus.

Products include the AR Insider publication and the ARtillery PRO research subscription, which together engender a circular flow of knowledge. Research includes monthly narrative reports, market-sizing forecasts consumer survey data and multi-media, all housed in a robust intelligence vault.

Learn more **here**.

About Data Briefs

ARtillery Data Briefs are research deliverables that are assembled weekly by ARtillery Intelligence analysts to document the market trends and events they're tracking.

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* and Editor-in-Chief of *AR Insider.*

Mike is a frequent speaker at industry conferences such as AWE, VRLA and XRDC. He has authored more than 120 reports and market-sizing forecasts on the tech & media landscape. He contributes regularly to 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 read **here.**

Methodology

This brief highlights *ARtillery Intelligence* viewpoints, gathered from its daily in-depth coverage of spatial computing. To support narratives, data are cited throughout the report. These include *ARtillery Intelligence* original data, as well as that of third parties. Data sources are attributed in each case.

For market sizing and forecasting, *ARtillery Intelligence* follows disciplined best practices, developed and reinforced through its principles' 15 years in tech-sector research and intelligence. This includes the past 3 years covering AR & VR exclusively, as seen in research reports and daily reporting.

Furthermore, devising these figures involves the "bottom-up" market-sizing methodology, which involves granular revenue dynamics such as unit penetration, pricing and growth patterns. More on ARtillery Intelligence market-sizing research and methodologies can be read **here.**

Disclosure and Ethics Policy

ARtillery Intelligence has no financial stake in the companies mentioned in this report, nor was it commissioned to produce it. With respect to market sizing, *ARtillery Intelligence* remains independent of players and practitioners in the sectors it covers, thus mitigating bias in industry revenue calculations and projections.

ARtillery Intelligence's disclosure and ethics policy can be seen in full **here.**

Contact

Questions and requests for deeper analysis can be submitted **here.**