

(VRX)

**XR Industry
Survey 2018**

(VR) Intelligence

 **SUPERDATA**
GAMES & INTERACTIVE MEDIA INTELLIGENCE

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About VR Intelligence

VR Intelligence is the world’s leading network of senior-level business leaders in VR, AR and immersive tech, brought together at the annual VRX events in San Francisco (December) and Amsterdam (April). Our year-round dialogue with the industry’s tech innovators and forward-thinking strategists, allows for the production of market leading events, insights from industry thought leaders and connections with industry pioneers.

About SuperData

Founded by veteran games industry researchers, SuperData Research is the world’s leading provider of market intelligence. SuperData offers quantitative and qualitative insights on virtual reality & XR across industry as well free-to-play games, digital console, mobile, PC downloadable, streaming media and gaming video content & eSports. SuperData helps its customers understand what people play, connect to, watch, and spend on.



Dec 6-7, San Francisco

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Featuring 90+ expert speakers from Google, HTC Vive, Microsoft, Paramount Pictures, Survios, Nestle, GM, DHL, Audi + more TBA

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INTRODUCTION

by Rich Goddard, Communications Director at VR Intelligence

VR, AR, MR, XR – whichever your favored reality, there’s little argument that the move to immersive has been one of the most talked about technology shifts of the past few years. With the ability and aspiration to transform the way we live, work and play, there are few whose lives this technology is expected not to impact as the technology matures.

But behind the excitement and media hype, a global community of the world’s brightest minds are living day-to-day in the eye of the storm – innovating, developing, collaborating and bringing immersive tech ever closer to the potential it’s been chasing for decades.

With our global network of those leading the charge in virtual, augmented and mixed reality, this annual survey gets us onto the front-line of the industry, to find out exactly where the industry is at. It provides a real insight into the major challenges and opportunities in XR growth for the consumer and enterprise markets and the reveals the perspectives those developing the tech, solutions and content to support it.



The results of this survey give insights into where the gains are being made in consumer and enterprise XR; how businesses are planning to spend over the next 12 months; the major challenges companies are facing to push towards mass adoption; and which industries are taking the boldest steps with the use of immersive tech for different business applications.



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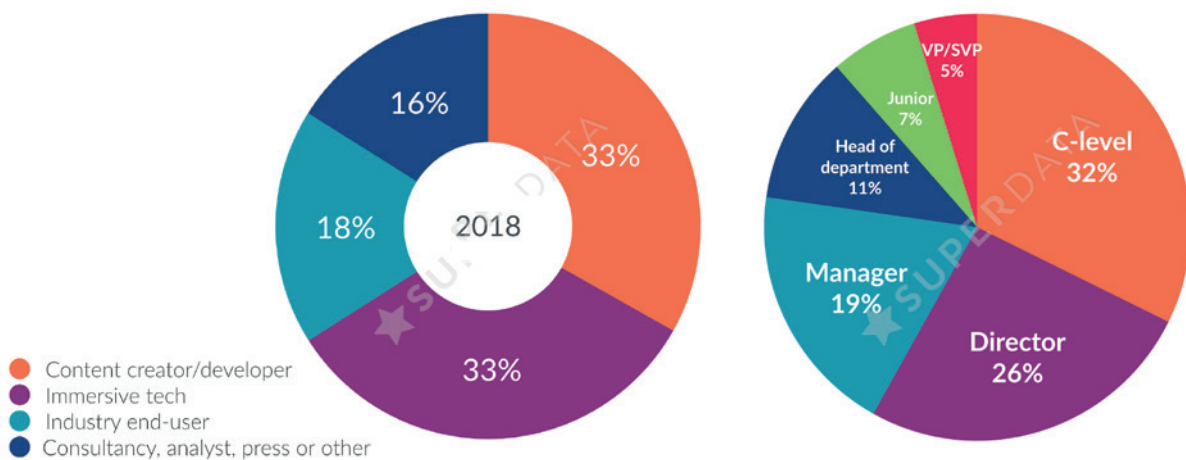
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Respondents

The survey questioned 595 VR and AR professionals from around the world, representing our primary audience of senior-level decision makers across the spectrum of the industry – a cross section of content creators, hardware and software manufacturers, industry end users, consultants, analysts, press, and those playing their role in pushing the industry forward.



Graph: Respondents' Business Categories.

Graph: Respondents' Job titles

Together with SuperData, the survey has been produced in conjunction with VRX 2018, the senior-level B2B event for VR & AR, this December 6-7 in San Francisco. For more info, visit www.vr-intelligence.com/vrx or contact Pete Carkeek at pcarkeek@vr-intelligence.com



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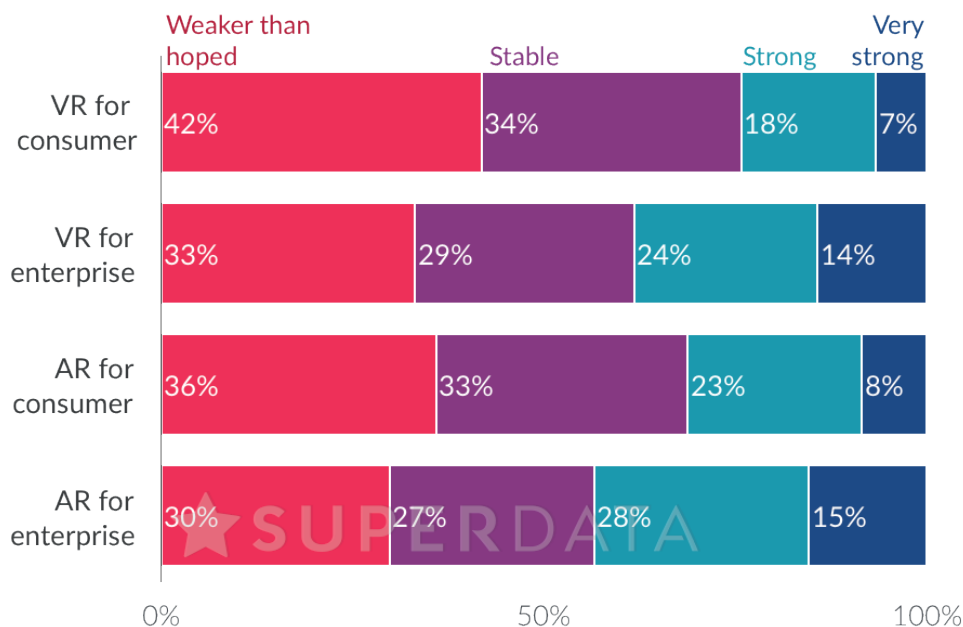
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1. VR & AR – WHERE’S THE GROWTH?

Both VR and AR can be seen making waves across most industries imaginable. From consumer-led industries like gaming, TV and film, to enterprise applications like product design, training and collaboration, businesses offering XR solutions and content are entering different markets with varying success.

So where are they seeing the most growth?



Graph: Growth by business area over past 12 months

Respondents were asked to describe the growth of their VR and AR businesses, across consumer and enterprise. The results suggest that both technology types are faring similarly, with reports of strong or very strong growth ranging between 25% and 43% for all of them.

On the whole, as has been widely reported, enterprise seems to be seeing the most growth compared to consumer. Particularly in VR, consumer growth has been considered weaker than expected – a reflection of slow sales of high-end headsets.



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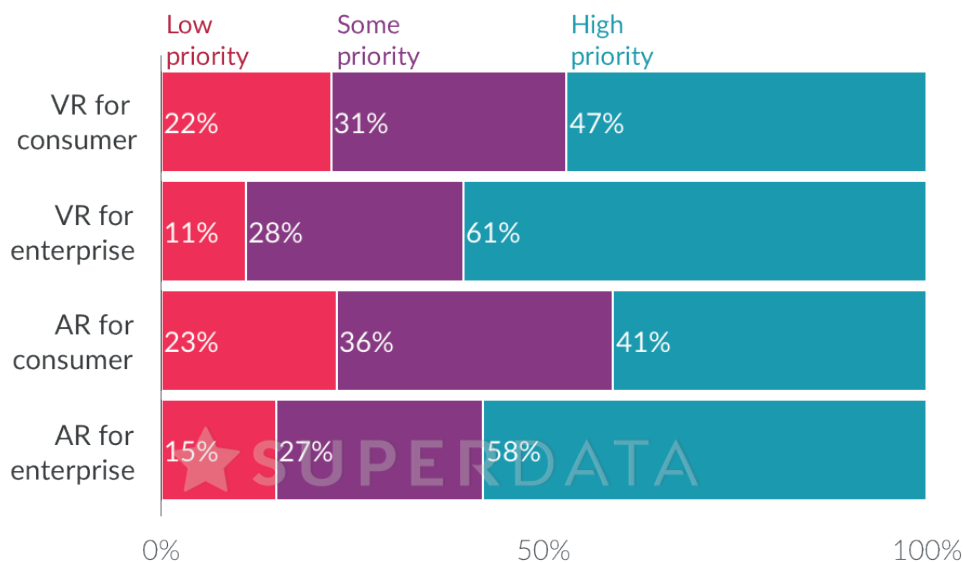
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That said, standalone headsets like Oculus Go are slated to generate the majority of consumer VR revenue starting this year and help to make quality VR experiences more accessible.

The current front-runner is AR in enterprise, which has begun to significantly impact industries ranging from aerospace and automotive through to retail and hospitality.

Unsurprisingly, where companies are currently seeing growth is being reflected in where they intend to spend over the next 12 months.



Graph: Priority for the business over next 12 months

Enterprise applications will take the highest priority in both VR and AR, as it is more feasible to corporations to invest at scale while the hardware remains relatively highly priced.

From a consumer perspective, the chicken-and-egg scenario sees a lack of consumer adoption bringing a lack of focus and investment from businesses – something which is arguably needed in order for the consumer market to move forward. This has been seen with the likes of VR pioneers, CCP Games, pulling out of VR game development for the foreseeable future.



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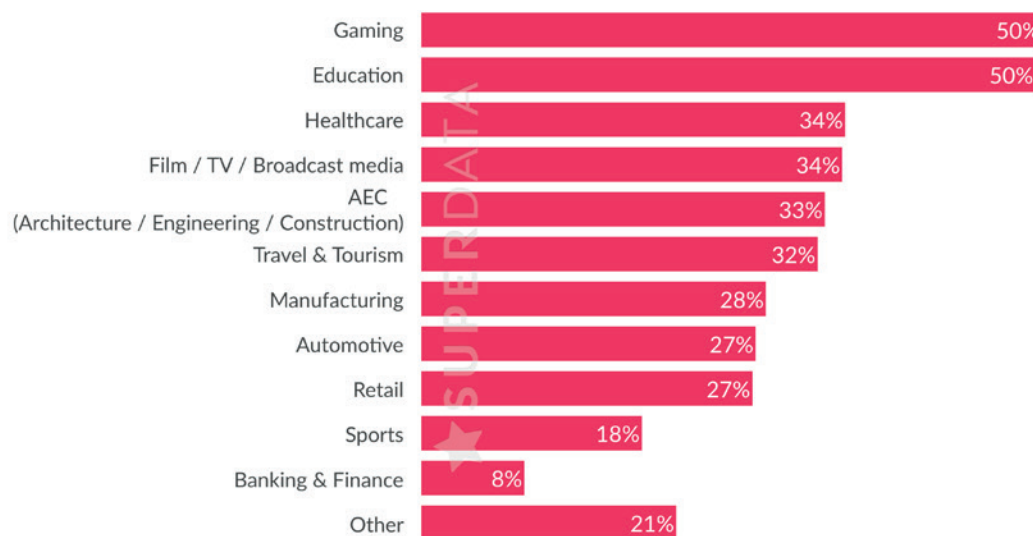
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Outside of games like *Pokémon GO*, direct monetization of mobile AR apps has been limited so far. This segment will depend on brands and advertising to drive revenue until consumer-ready AR/MR headsets hit the market.

As we'll see in the enterprise section, education is the most in-demand field (see page 12), and is also the most competitive one in enterprise XR given that half of all supply-side companies currently work in the space or intend to.



Graph: Priority by industry over next 12 months

Though it's worth considering that, due to the limited spending power of individual educational institutions compared to a Fortune 500 company, XR companies targeting the education field will need to accrue a large client base.

In contrast, AEC is the fifth most popular segment for supply-side companies but is the second most in-demand segment. Supply-side companies who target AEC may have an easier job given the lower ratio of competitors to potential customers.

Manufacturing similarly may have underserved demand, but companies targeting this field must be prepared for a rapid shift toward AR/MR from VR.



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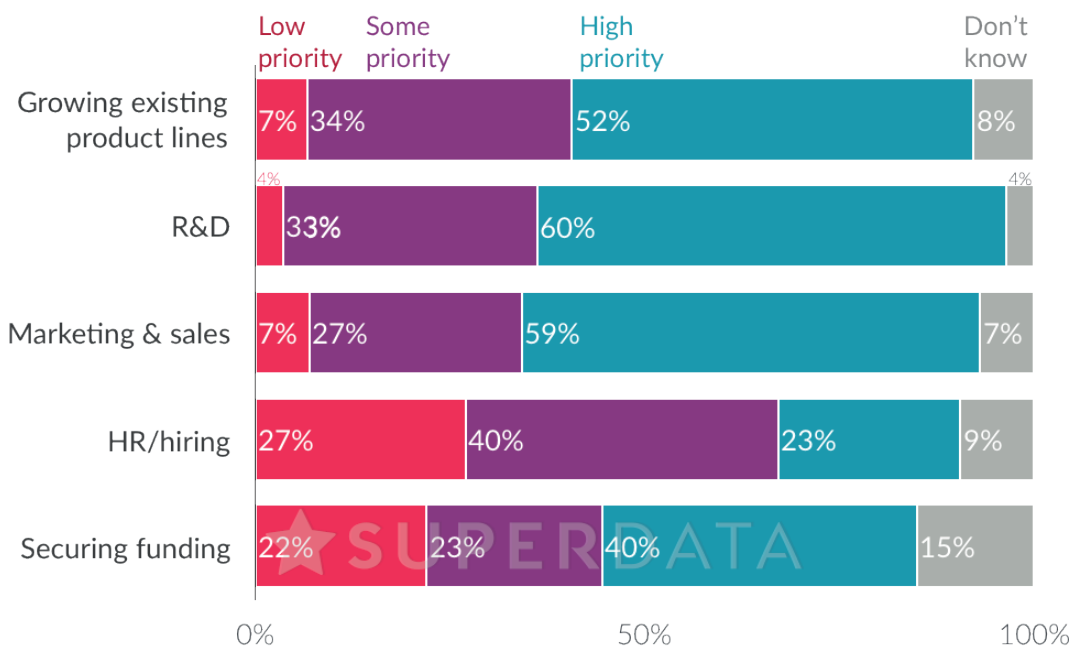
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2. STRATEGIES & INVESTMENTS – WHERE ARE MONEY & RESOURCES FLOWING?

The way businesses prioritize their investments gives an indication of not only how the business is fairing right now, but also where growth could be stimulated through investment from the industry.



Graph: Investment priority over next 12 months

Most VR & AR companies are prioritizing the development of new and existing products, marketing and sales, where hiring and HR seems to be significantly further behind – perhaps a suggestion that companies are focusing more on achieving growth than they are currently fulfilling growth.

Where’s investment needed...and where’s it actually going?

The industry cites a number of technological innovations required in order for VR and AR to become more widely adopted. But where’s the investment actually going?



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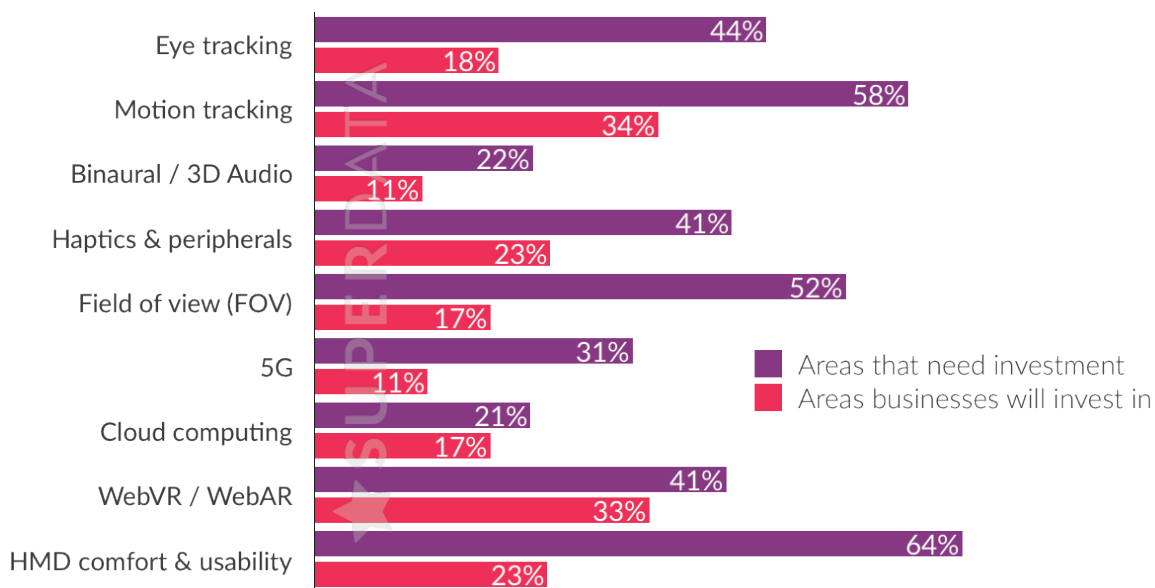
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We asked respondents to not only tell us which pieces of technology they believe are most important to develop, but also which they're actually investing in, to see where the major gaps are and whether they're being filled.

The results are mixed with regards to investments needed vs investments being made.



Graph: Investments required for growth vs actual investments planned

On one hand, the advancements deemed necessary in areas such as motion tracking and WebVR/ WebAR are also a priority for investing for a significant portion of the industry.

On the other hand, Field of view (FOV) improvements are generally agreed to require investment but, when the decisions on investments are being made, this category seems to be missing out.

The data also suggests that HMD comfort and usability is a key area for improvement, but is also lower down in the list in terms of investment (though it's worth noting that only 7% of survey respondents to this question came from hardware companies).



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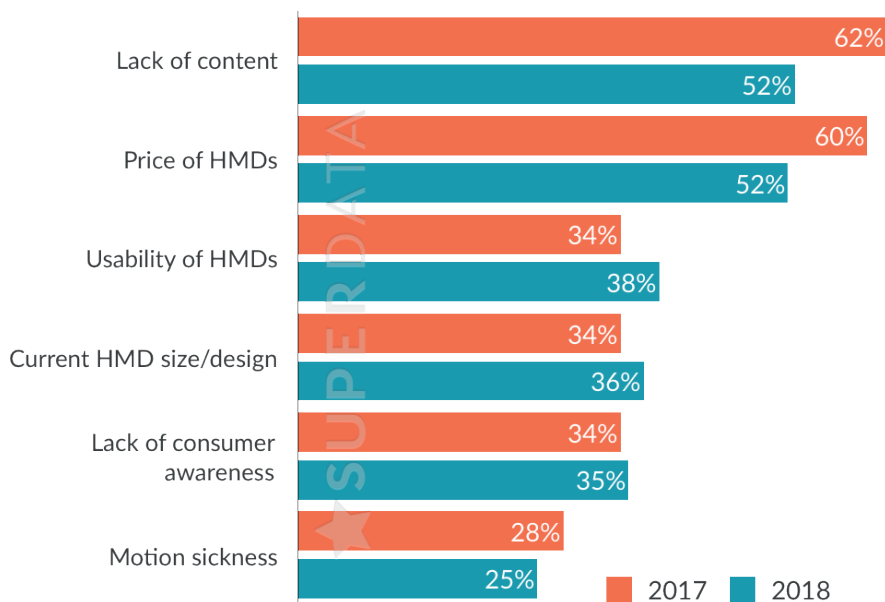
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3. CHALLENGES TO INCREASED ADOPTION

Experts have long predicted that VR and AR would take time to reach mass adoption, across both consumer and enterprise markets. As time goes by, the barriers to mass adoption are falling – with hardware prices dropping, improvements in both the quality and variety of content and an ongoing wave of technological innovations.

So what are the main barriers still yet to be overcome?



Graph: Major barriers to mass consumer adoption:

Generally speaking, the industry has the same concerns as in last year’s survey, on which factors are holding VR and AR back from wider adoption. But the most significant difference comes in respondents’ views on the pricing of HMDs and lack of content; down from 60% to 51% and 62% to 52% respectively.

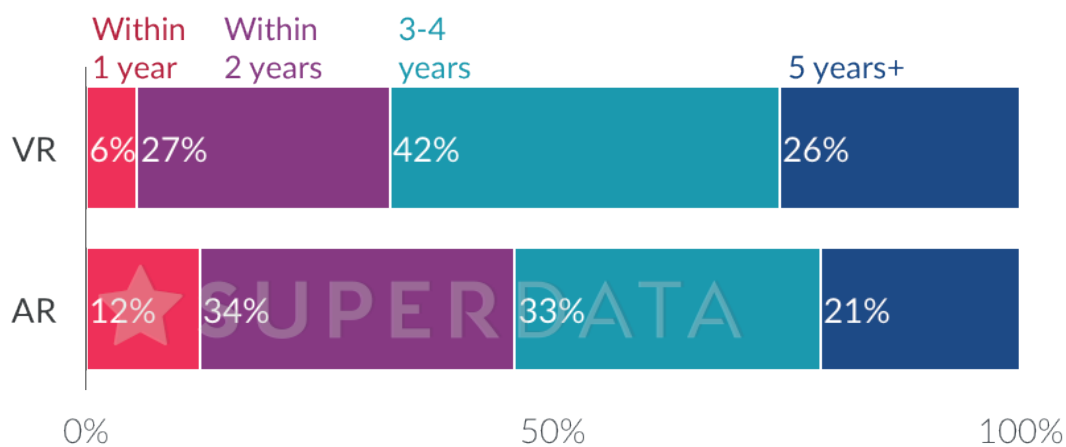
The change in opinion on pricing is most likely a reflection of the price drops from major headset manufacturers like HTC, Oculus and Google; while developments

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in content creation are starting to alleviate this particular barrier to adoption. Additionally, standalone devices like Oculus Go and Lenovo Mirage have brought down the entry point price of high-quality VR as they do not require a console or powerful PC.

Despite this, pricing and content are still the major concerns for the industry, by a significant margin.



Graph: Expected timeframe for mainstream adoption

The general feeling within the industry is that AR will reach mainstream adoption sooner than VR. This could be attributed to a number of factors - but the availability of open content development platforms like ARCore and ARKit will certainly play a role in filling the content gap, while the success of Nintendo and Niantic's Pokemon Go provided the first real example a smash hit gaming title - something VR is arguably yet to achieve, at least on the same scale.

In addition to standalone apps, social media platforms have introduced AR to users through features like Snapchat Lens Studio, making strong steps towards an easily accessible and usable product.



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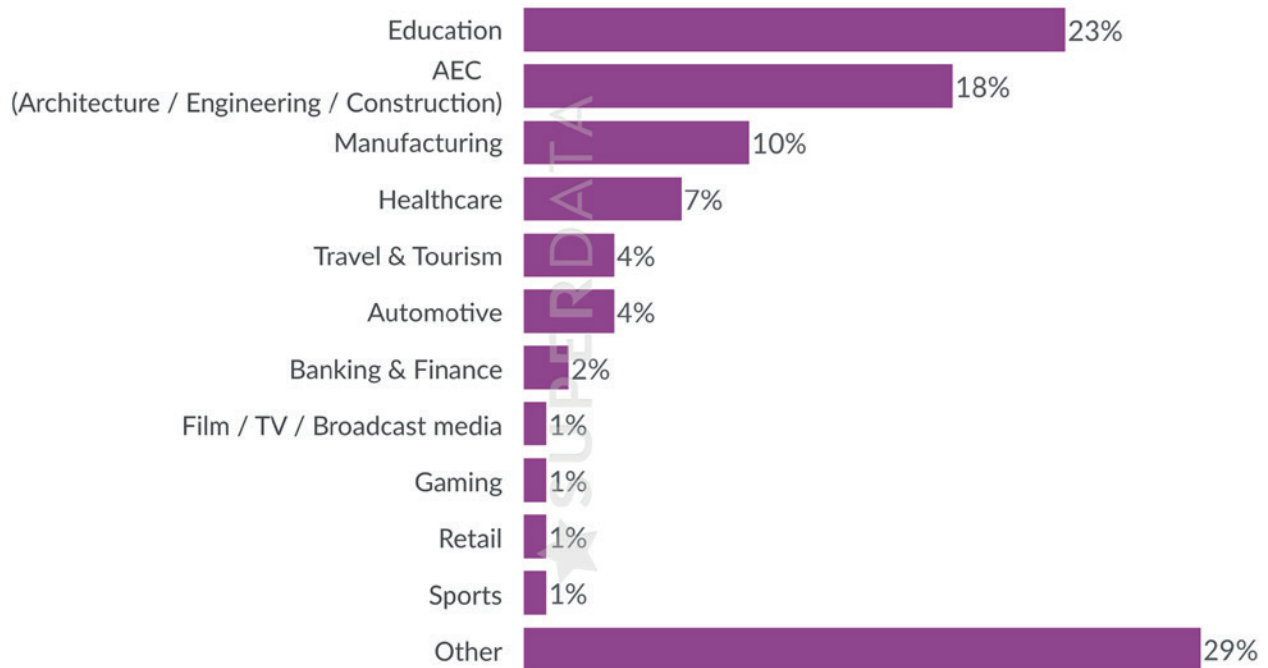
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4. XR IN ENTERPRISE – USES AND IMPACTS

As noted in the previous section, the wait for consumer adoption has seen many VR and AR companies target enterprise as their source for shorter-term revenue and growth. From automotive to architecture, retail to tourism, manufacturing to construction, immersive tech is impacting the way companies work, design, communicate and sell.

In this section, we explore which industries are host to the early adopters, where success is being found and where the gaps are to further integration of XR technologies and content in enterprise.

Businesses already using XR technologies



Graph: Industries of current and prospective XR end-users

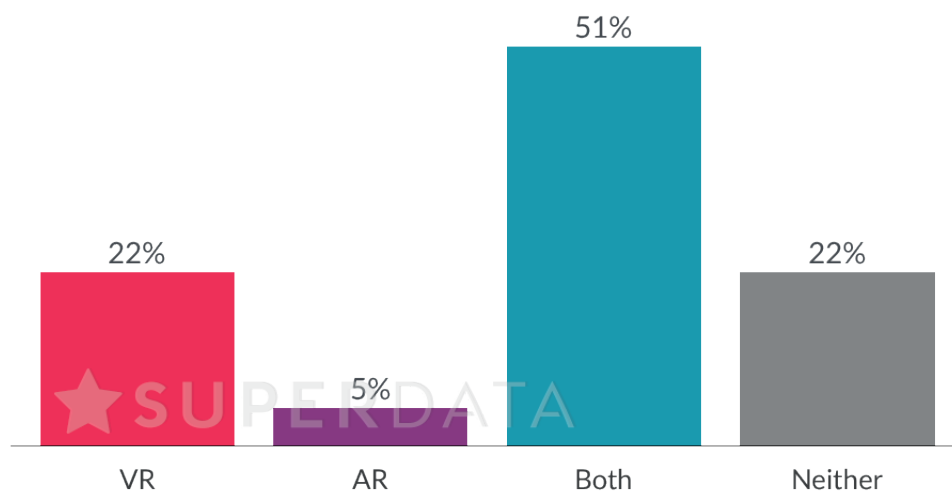
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The education and AEC industries have the largest volume of potential enterprise XR customers. However, some additional lucrative industries for supply-side companies are also showing significant signs of demand.

Education is still the most common industry, but the share of end-user firms in this segment has fallen from 31% in fall 2017 to 23% in summer 2018. A wider array of enterprise users are entering the field and seeing the benefits of the technologies which means the XR market is expanding beyond academia and related fields.

Potential use cases still vary widely by industry, so XR providers may need to pick their target industries or areas based on the applications that suit best. As the technologies and use cases evolve, more and more companies are defining their niche areas – such as automotive or architecture, or training or product design – placing their flag in the ground as each area grows and becomes more mainstream.



Graphs: Current VR/AR usage in enterprise

Clearly the majority of enterprises using immersive tech see benefits in combining both VR and AR. A smaller share of “AR-only” respondents indicates that businesses are still learning the ropes of this medium, whereas a greater share of companies have already identified concrete use cases for VR.



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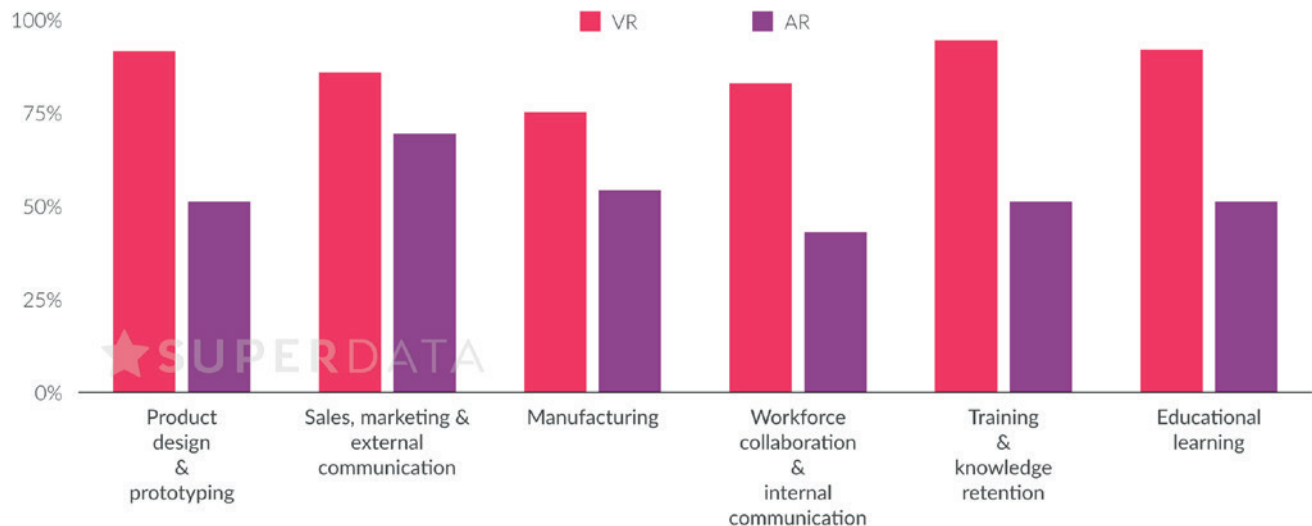
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For early adopters, the use of AR is close to pulling even with VR in manufacturing, sales and marketing.



Graph: Current XR integration by use case

The ubiquity of mobile AR make it an obvious choice for creating tools for selling consumer goods like furniture, clothing, and cosmetics. Prime examples are the likes of Ikea Place, allowing users to see if virtual furniture will fit in their real-world room; or where Facebook is currently testing AR ads to show how items like glasses will work on users. Internally, companies like Lockheed Martin have been using AR in the manufacturing process for years to relay info to employees quickly.

While AR generates mainstream headlines, enterprise end users still use VR more heavily for every industry segment. VR leads AR heavily in training (94% versus 51%) as VR has the capability needed to create fully immersive environments and true to life scenarios.

VR training does not just teach “hard” skills, but also soft skills like empathy. For example, Embodied Labs lets caregivers for the elderly experience simulated visual and mental impairments.



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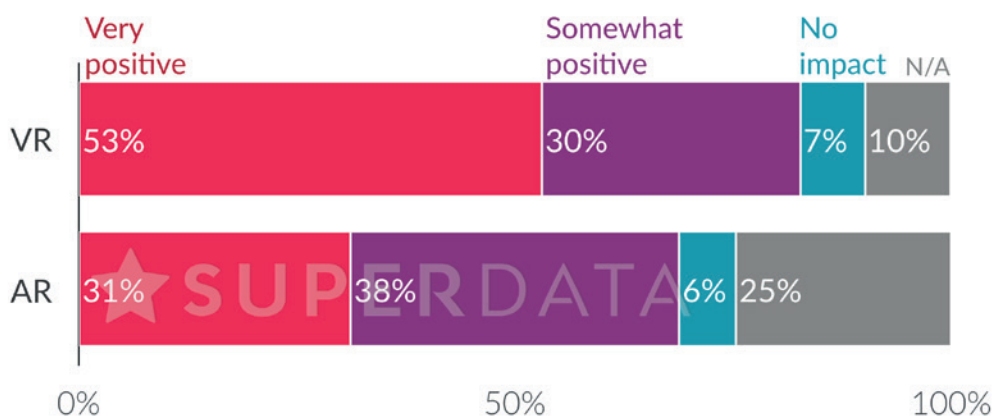
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However, there are already use cases for training in AR instead VR. Boeing developed a solution to its complex production process by working with Upskill, which focuses on providing AR to companies in industry and manufacturing. Workers experience high-skill production tasks, such as wiring and assembly, through the glasses in a virtual environment. Training with the glasses allows engineers to practice with no cost or implications. As a result, Boeing had a 25% drop in production time according to Upskill.

XR in Business – Does it work?

The hype around VR and AR consumes enterprise markets just as it does consumer. So does the reality live up to the expectations?



Graph: Impact of XR on business

We asked respondents about the effect VR and AR has had on their business, from positive to no impact.

The graph above shows positive signs of the impact that immersive tech is having on enterprise. Over 80% of respondents indicated that VR was having a positive impact on their business and nearly 70% said the same for AR.



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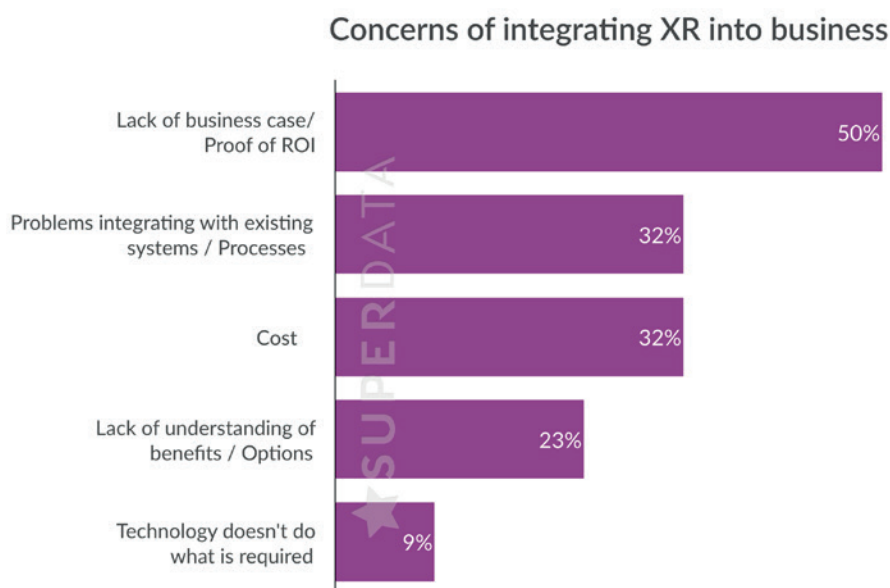
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VR tech is more mature at this point and hardware/software makers have had time to tailor content to the particular needs of the enterprise segments they're working with. As a result, companies have seen a more positive impact after implementing VR, over AR.

Business yet to start using XR technologies



Graph: Concerns of integrating XR into business

While early adopters have been experimenting – and often embracing – immersive tech, the vast majority are yet to realize the possibilities the technologies provide. So what's holding them back?

Results suggest that suppliers still need to provide clear use cases to get companies on the fence to try XR technology. With this in mind, investment in B2B marketing and PR, with a clear and concise message, case studies and competitor data, have the potential to pay dividends.



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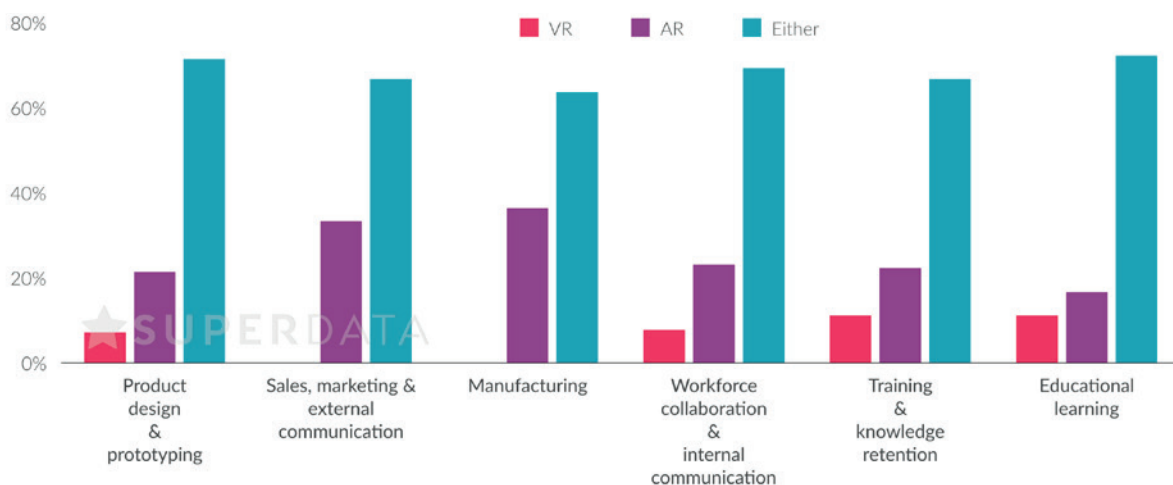
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Related to this is the importance for the end-user to understand the specific business areas the technology can bring benefit and which type of immersive tech would be most suitable to do so.

In exploring where enterprise respondents felt it might be of use, AR appeared more appealing than VR for companies that are still on the fence about using XR in the enterprise – ironic, when VR is actually being more widely used. It's difficult to know how or why this is the case, though it may simply be that the concept and benefits of VR are more difficult to understand without actually trying a headset; whereas AR can be viewed from a 3rd person perspective. Either way, it does suggest companies providing VR solutions need to work on how they communicate the benefits.



Graph: Where current non-users would be interested to integrate XR

Investing more in enterprise XR

Ultimately, the benefits of XR in the workplace can be indicated by whether or not companies will re-invest, once trialed. So we asked both current users and non-users to tell us whether or not they intend to do so.



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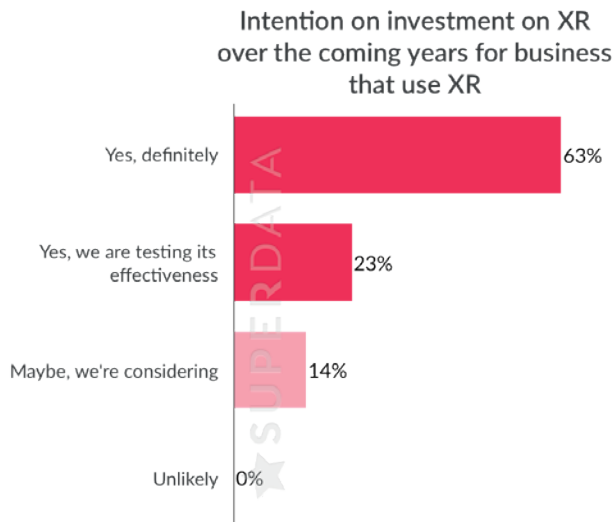
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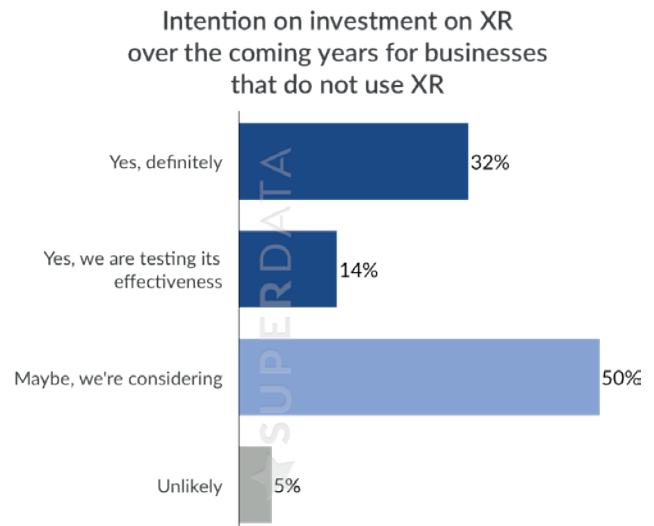


Future investment

Businesses already using XR technologies



Businesses yet to start using XR technologies



Graph: Are businesses likely to invest more in XR?

The results show that, once industry end users give immersive technology a shot, they usually see the ROI and the value in investing again. Among those who currently use it, 63% definitely plan to invest more in it, compared to only 32% of those who haven't yet tried it.

As previously noted, this once again suggests the importance of being able to trial the technology, in order to gain a true appreciation of the benefits – a note to suppliers and vendors in developing a sales and marketing strategy...and a note to enterprises to give it a try!



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UPCOMING EVENTS: VRX 2018

To gain further insight into what's really happening in XR, join 800+ industry leaders at VRX 2018, this December 6-7 in San Francisco.

Focused on filtering through the hype around VR, AR and immersive tech, the line-up includes over 90 senior-exec speakers from Google, HTC, Microsoft, General Motors, Paramount Pictures, HP, Survios, Nestlé, DHL and others – with many more to be announced.

The agenda will cover both consumer and enterprise VR, including gaming, film, TV, AEC, automotive, manufacturing, retail, healthcare and beyond; with the underlying aim to bring together those in the decision-making position, to understand where the industry stands and what's needed to move it forward.

Alongside the conference, the expo will feature the likes of Diamond Sponsors HP, plus Siemens, Zerolight, Almalence and over 40 other leading immersive tech companies showcasing the latest tech and content solutions to provide real business value.

To see the full list of first speakers announced plus all other info, go to www.vr-intelligence.com/vrx or contact Pete Carkeek at pcarkeek@vr-intelligence.com





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- **WHO** are the companies leading the charge that you should be partnering with? And what are the secrets of their success?
- **WHAT** are the primary platforms, hardware, software and solutions options that will take immersive tech and content to the next level? And where are the tech gaps?
- **WHERE** are the real consumer and enterprise market opportunities right now? And what's coming round the corner?
- **WHEN** will VR & AR go mainstream? What major successes are we seeing already? And what are the barriers holding back adoption?
- **HOW** are businesses across industry reacting to the shift to immersive tech? What impacts are VR & AR having on day-to-day operations and productivity?
- **WHY** should you be investing? Will early movement pay-off, and what levels of ROI can you expect?

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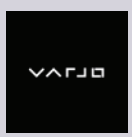
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