



THE GLIMPSE GROUP
Nasdaq: VRAR

Every VR & AR ROI Statistic You'll Ever Need

Cross-sector ROI Statistics, Insights and Benefits

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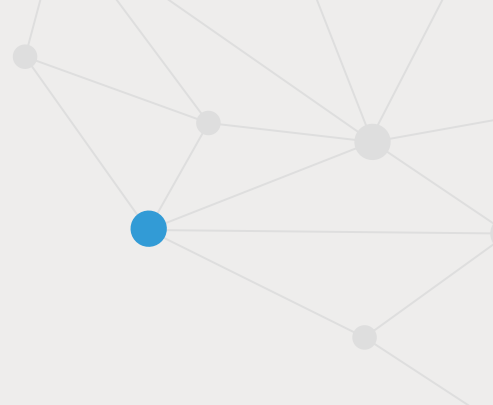
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Dear Reader,

Here at **The Glimpse Group**, we work with Virtual Reality (VR) and Augmented Reality (AR) across a wide variety of industries. With over a dozen subsidiary companies spanning several sectors, ranging from education to construction to marketing and beyond, we have a unique perspective on what VR and AR adoption looks like in multiple industries.

With that in mind, we've pulled together this comprehensive list of statistics, insights, and key advantages on VR and AR adoption across sectors. By exploring this guide, professionals in any industry can better understand why they should start using immersive technologies in their work. Whether you're an educator considering how to get your students engaged with VR, an upcoming healthcare professional looking for the latest clinical training techniques, or an office manager who wants to enhance productivity with your remote work team, VR and AR can help. We've organized this list into categories based on sector, so if you're looking for information on a particular industry, check out the directory at the top and you can jump straight to your relevant section.

Each industry enjoys its own unique benefits for integrating VR and AR technology, as you'll see below. We hope this guide to VR and AR adoption is helpful, and we'll see you in the metaverse!

- The Glimpse Group Team, 2022

NOTE: As a disclaimer, we've gathered these statistics and insights from a wide range of sources, all of which maintain different standards for experimentation, measurement, and drawing conclusions. While we believe everything on this list matches our understanding of the benefits of VR and AR adoption, we've also provided links to each source in case you want to look into a source's methodology yourself.



Marketing

By incorporating immersive technologies into your marketing strategies, you can elevate your business profile, sharpen brand identity, and create new engagement opportunities with customers and clients. Experiential marketing rooted in VR and AR technology represents the next generation of consumer outreach, engaging your customer base with meaningful branded experiences.

Enhance your ecommerce site and reinforce your brick-and-mortar locations with activated VR and AR marketing tools. Virtual showrooms and fitting rooms allow customers to try on products from home using AR filters, reducing returns and boosting consumer confidence. Conducting social media campaigns with branded AR filters and games increases brand retention and gamifies advertisements. And creating branded VR experiences raises your brand identity with memorable interactive experiences.



Retail

1 AR elements in marketing campaigns improve sales conversions.

Products promoted with AR content have a **94% higher conversion rate** than products without.¹

Using AR in advertising **increases purchase intent by nearly 2.5x**.² In one case, six out of every ten users (60%) who engaged with an AR lens bought the associated product.³ In another case (Bollé AR filters), the social media-based AR try-on filters generated an **85% increase in new users** to Bollé's website, leading to a **456% increase in year-over-year sales** for Bollé.⁴

2 Traditional marketing is failing to achieve results.

1 out of every 4 Americans have an **ad blocker installed**, and that number is only growing.⁵

3 AR-based retail marketing reduces rate of returns, increases repeat customers, and increases customer satisfaction.

66% of shoppers who use augmented reality tech are **less likely to return items.**⁶ **80% of people** say they feel more confident in their purchases when using augmented reality tools.⁷

Experiential

4 Customers want VR branded experiences.

80% of consumers feel positive about experiencing branded VR tactics.⁸ **Over half of all consumers** would buy from a brand using VR over a brand that isn't using VR.⁹ **81% of consumers** who use VR end up telling a friend about it.¹⁰

Learning

From education to corporate training to healthcare, Virtual Reality and Augmented Reality are transformative tools for all stages of learning.

Educators can enhance education at all levels by using immersive technologies to challenge and inspire students. VR and AR-based learning tools have been shown to raise test scores, boost information retention, and reinforce both remote learning and traditional in-person education. Introducing students to the latest emerging technologies can prepare them for the workplace of the future, and adopting innovative educational techniques can boost enrollment at your school or university.

For employers, conducting employee onboarding in Virtual Reality creates convenient, comfortable spaces for practicing both hard skills and soft skills. Companies can train and orient new employees by replicating workplaces in VR, accelerating the onboarding process. VR training also provides trainers with data points and analytics to optimize the training process.

Upcoming healthcare professionals can practice difficult procedures in a low-pressure VR or AR environment, providing crucial on-the-job experience. Professionals trained in VR or AR score higher on evaluations, complete procedures with greater efficiency, and execute a greater number of clinical tasks correctly.

Education

5 AR-based learning leads to higher test scores and better learning comprehension.

Students who learned material using AR **scored 30-45% higher on tests** than students who learned the material traditionally.¹¹

Virtual Reality-based learning has been proven to **increase student attention by 100% and improve test results by 30%**.¹²

6 VR-based learning leads to greater information retention.

Information presented in VR has a **retention rate of 75%**, compared to **10% if the same info was read**.¹³

AR-based learning leads to greater learning comprehension.

AR learning produces **30% faster student activity and team work, 50% better information comprehension, and 50% more complex information sharing.**¹⁴

8 VR and AR-based learning creates competitive enrollment advantages over traditional schools.

Savannah College of Art and Design saw a **26% increase in admissions** after prospective students were able to experience campus settings in Georgia, Hong Kong, and France.¹⁵

Over 50% of teachers want to incorporate VR and AR tech into their classrooms, an opinion backed by **similar numbers of parents.**²⁶

Corporate Training

9 VR training creates more competent & more efficient employees.

Employees who received training in VR or AR produced **30% more quality goods** (i.e. products meeting quality standards),¹⁷ made nearly **40% less errors** than traditionally trained employees,¹⁸ and completed tasks **3.25x faster** than traditionally trained employees.¹⁹

10 VR training is faster & more effective than traditional training.

The retention rate of information presented in VR was **75%, compared to a mere 10%** learning the same info on paper,²⁰ meaning **less repetition/reiteration** is required.

Fully onboarding an employee generally takes up to eight months; even cutting it by the **low-end estimate of 25%** shaves months off that process.²¹

VR safety training **reduces the lost time from workplace injuries by 43%.**²²

1 VR-based training reduces associated costs of training.

Across several industries, companies generally **spend over \$4000 on a single employee's onboarding.**²³ By investing in VR headsets for employee onboarding, the technology services company Accenture **reduced their onboarding costs by an estimated 96.4%.**²⁴

2 Employees trained in VR are happier, meaning less turnover and longer-term employment.

Walmart trained its employees in VR, **improving employee success rate by 70%, employee satisfaction by 30%, and employee retention rates by 15%.**²⁵



70% Higher
Employee
Success Rate



30% Higher
Employee
Satisfaction



15% Higher
Employee
Retention Rates

Healthcare

13

VR treatments can be more effective than their traditional counterparts.

VR-enhanced cognitive behavioral therapy (CBT) was **4x as effective**, both in the short term and in the long-term, than traditional CBT.²⁶ Similarly, **89% of patients preferred VR exposure therapy** to traditional exposure therapy.²⁷

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VR healthcare training leads to higher test results and better clinical performances than traditional training.

VR simulation learning showed **63% higher post-test knowledge scores** and **83% higher number of correctly executed tasks** compared to Standard Operating Procedure.²⁸

15 VR healthcare training creates practitioners who complete procedures faster than their traditionally-trained counterparts.

Medical practitioners trained in VR completed a procedure **over twice as fast** as conventionally-trained healthcare professionals and **just as effectively**.²⁹

16 VR integration allows for remote treatment, providing crucial treatment to those without access.

Currently, **50-70% of patients can't attend physical therapy due to barriers to access**; VR-based physical therapy provides access to those who need it.³⁰

Visualization

By visualizing, presenting, and sharing information in 3D space, you can unlock deeper insights and clearly communicate ideas with others.

The AEC (Architecture, Engineering, Construction) industry is one of many sectors undergoing a massive transformation with immersive technologies. VR and AR integration cuts down on rework costs, allows AEC professionals to recognize design conflicts earlier, accelerates project timelines, and clearly communicates design intent to stakeholders at all stages of the project lifecycle.

Immersive technology also allows users to share and present data clearly and compellingly. Connecting with clients remotely in VR simplifies complex concepts with 3D presentation tools. A comprehensive, intuitive virtual workspace enhances collaboration with colleagues and accelerates team-based objectives. Telling your data story in 3D not only makes for more memorable presentations, but unlocks a level of clarity impossible for conventional 2D charts, graphs, and presentation tools.



AEC

Nearly every AEC project suffers from rework costs.

Rework costs amount to at least **12% and up to 20% of the total project budget.**³¹ Rework costs increase further into project development, ranging from **\$6000 on the low end** up to **\$22,000 per issue.**

52% of rework is caused by **poor project data and communication.**³² **98% of AEC projects** incur cost overruns, typically **running 30% over budget.**³³

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Using AR reduces costs & accelerates progress.

Using AR **reduces rework costs by at least 18.4% and up to 34%.**^{34 35}

AR allows project managers & stakeholders to identify project issues earlier, saving money on rework costs because **reworks become increasingly costly further into development.**^{36 37}

AR-based modeling reduces model design time by 10%,³⁸ and reduces construction time by 7%.³⁹

Reduces construction time by 7%

19

Impress clients by being an early adopter.

66% of architecture firm leaders agree that VR and AR will play an increasingly important role in the near future.⁴⁰ Despite this, **only 37% of construction companies** have tried using immersive tech at all,⁴¹ and **only 16% of architecture firms** are currently using immersive tech.

Data

20 VR-based data visualization leads to higher rates of information retention.

Retention rate of info presented in VR was **75%**, compared to a mere **10%** learning the same info on paper.⁴²

Adults retain approximately **10% of what they see**; **30%-40% of what they see and hear**; and **90% of what they see, hear, and experience**.⁴³

21 Visualization is far more effective at conveying information than verbal/textual presentation.

Our brains process visual information **60,000x faster than text**.⁴⁴

Digital visual elements (e.g. maps, storyboards, charts, matrices) also increase the convincingness of an argument: presentations with visual elements are **17% more convincing** than purely verbal presentations.⁴⁵

Visual elements can **shorten the length of meetings by 24%**.⁴⁶ Groups using visual elements **reach a consensus 21% faster** than those without visual elements.⁴⁷

Social & Collaboration

Immersive technologies are invaluable tools for communicating clearly and effectively with both your team members and your client base. Use Virtual Reality to create memorable connections with your customers, and increase productivity by collaborating with coworkers in VR.

Coworking in a shared virtual space accelerates collaborative efforts, reduces errors, and provides unique opportunities to utilize cutting-edge virtual coworking tools. Immersive technologies offer a valuable alternative to videoconferences, reducing “Zoom fatigue” while strengthening connections between coworkers.

VR can enhance client outreach with virtual live events, VR tours, and immersive brand experiences. By hosting your next live event in VR, you can broaden accessibility, enhance networking opportunities, and elevate your brand. Meanwhile, 360° tours in VR allow your guests to experience your accommodations from the comfort of their own homes, leading to more reservations, greater traveler satisfaction, and more memorable vacations. Immersive travel experiences have been shown to generate a strong and prompt Return on Investment for adopters worldwide.



Meetings

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Collaborating with coworkers in VR and AR achieves higher quality work.

Problem-solving in a shared virtual space is **32% faster** compared to traditional video calls, and **50% fewer errors** occurred.⁴⁸

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“Zoom fatigue” limits productivity in conventional remote work.

Unavoidable aspects of video conferences, like sustained eye contact and a lack of personal space, **negatively impact productivity** and lead to **faster burnout** than in-person meetings.⁴⁹

24

Video conferences are prone to miscommunication.

Users are **more likely to make mistakes** during video conferences, because a portion of their attention is occupied with technological aspects of the meeting, i.e. video and audio latency.⁵⁰

25

Employees prefer working in a shared virtual space to traditional video calls.

84% of workers preferred coworking in a shared virtual space to traditional video calls.⁵¹

Conveying information with digital visual elements (e.g. maps, storyboards, charts, matrices) can **shorten the length of meetings by 24%**.⁵² Groups using visual elements **reach a consensus 21% faster** than those without visual elements.⁵³

Events

26

Traditional live events are increasingly difficult to organize.

38% of the labor workforce has left the live events industry since 2020.⁵⁴ **Only 41% of event-goers** expressed willingness to attend an in-person live event, even if it was local.⁵⁵



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Hybrid/virtual events are cost-effective and receive higher attendance than traditional in-person events.

86% of B2B organizations get a **positive ROI within 7 months** of the virtual event date.⁵⁶

Supporting your virtual or hybrid event with event technologies, including immersive tech, can **increase attendance by 20%, decrease costs by up to 30%, and increase event planners' productivity by 27%**.⁵⁷

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Hybrid and virtual events are continuing to grow in popularity.

68% of B2B marketers agree that most lead generation comes from hybrid and virtual events.⁵⁸ Even before the pandemic, **87% of event creators** planned to incorporate VR or AR in the near future.⁵⁹

Over 50% of attendees say they are more focused on learning during virtual events compared to in-person.⁶⁰ **Nearly half of all upcoming B2B events** will be virtual.⁶¹

Travel

29 Virtual travel experiences generate higher rates of vacation and accommodation bookings.

Customers aged 18 to 34 are **130% more likely** to book their lodging if there is a virtual tour.⁶² Regardless of demographic, customers spend **5x-10x more time** on websites with virtual tours.⁶³

Virtual tours generate **46% more sales** (bookings) than still images.⁶⁴ 360° tours similarly **increase online revenue by up to 135%**.^{65 66}



13% of people who experience a vacation in VR **go on to book a trip or get in touch with hospitality companies**.⁶⁷ VR tourism marketing **increases destination visitation by 9%** and **increases website engagement by 64%**, with length of time on-site **exceeding 8 minutes**.⁶⁸

30 VR and 360° tours generate a strong ROI.

For hotels adopting VR and 360° tours, **time for ROI was less than 4 weeks.**⁶⁹ In one case, a virtual experience advertising NYC saw a **40% ROI with a 190% increase in trips booked.**⁷⁰

31 Consumers want to experience a destination in VR before booking.

51% of Marriott's customers expressed intent to travel to more Marriott hotels after the company showcased VR travel stories from other locations.⁷¹

More than 70% of people are interested in VR-based travel content.⁷² **62% of people** consider VR a tool for vacation planning,⁷³ and **20% of people** have already used VR to select a vacation destination.⁷⁴

Sources

1. <https://yml.co/how-augmented-reality-is-changing-e-commerce-and-the-way-we-shop>
2. <https://www.thedrum.com/news/2021/11/16/how-snap-uses-ar-drive-purchase-intent-brands>
3. <https://www.thedrum.com/news/2021/11/16/how-snap-uses-ar-drive-purchase-intent-brands>
4. <https://arinsider.co/2022/07/12/case-study-bolle-boosts-brand-image-with-ar/>
5. <https://www.emarketer.com/Article/US-Ad-Blocking-Jump-by-Double-Digits-This-Year/1014111#:~:text=More%20than%2025%25%20of%20internet%20users%20will%20block%20ads%20this%20year&text=In%202016%2C%2069.8%20million%20Americans,24.0%25%20to%2086.6%20million%20people>
6. <https://www.retaildive.com/news/shoppers-who-use-ar-less-likely-to-return-purchases-snap/625761/>
7. <https://www.retaildive.com/news/shoppers-who-use-ar-less-likely-to-return-purchases-snap/625761/>
8. <https://touchstoneresearch.com/vr-and-consumer-sentiment/>
9. <https://www.webfx.com/blog/marketing/why-virtual-reality-matters-to-marketing-infographic/>
10. <https://www.webfx.com/blog/marketing/why-virtual-reality-matters-to-marketing-infographic/>
11. <https://www.mdpi.com/2078-2489/11/4/209>
12. <https://pdfs.semanticscholar.org/59f8/7c872184a603fd8cd5b363946e6b70fd14e1.pdf>
13. http://ivrtrain.com/ivrtrain/VR_Learn_Report-2017.pdf
14. https://www.researchgate.net/profile/Gyoergy-Molnar-2/publication/329310032_Use_of_Augmented_Reality_in_Learning/links/5c2c05c3458515a4c7066043/Use-of-Augmented-Reality-in-Learning.pdf
15. <https://www.highereddive.com/news/virtual-reality-grows-as-asset-in-academic-enrollment-management/523309/>
16. <https://edtechnology.co.uk/e-learning/digital-skills-learnt-during-pandemic-set-kids-up-for-life-report/>
17. <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9144168>
18. <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9144168>
19. <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9144168>
20. http://ivrtrain.com/ivrtrain/VR_Learn_Report-2017.pdf
21. <https://hbr.org/2015/03/technology-can-save-onboarding-from-itself>
22. <https://pixovr.com/vr-training-statistics/>
23. <https://www.shrm.org/about-shrm/press-room/press-releases/pages/human-capital-benchmarking-report.asp>
24. <https://vrworldtech.com/2021/10/15/accenture-acquires-60000-oculus-quest-2-headsets-for-training/>

Sources

25. <https://www.chieflearningofficer.com/2021/03/23/case-study-walmart-embraces-immersive-learning/>
26. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4770914/>
27. <https://www.jmir.org/2020/4/e16386/>
28. https://media.springernature.com/lw685/springer-static/image/art%3A10.1038%2Fs41587-020-00784-5/MediaObjects/41587_2020_784_Fig2_HTML.png
29. <https://onlinelibrary.wiley.com/doi/abs/10.1111/pace.12546>
30. https://journals.lww.com/otainternational/Fulltext/2021/06000/Virtual_reality_based_physical_therapy_for.12.aspx
31. <https://becht.com/becht-blog/entry/measuring-construction-rework-delays-in-sustaining-capital-projects/>
32. FMI 2018 Industry Report "Construction Disconnected" http://pg.plangrid.com/rs/572-JSV-775/images/Construction_Disconnected.pdf
33. <https://www.mckinsey.com/business-functions/operations/our-insights/the-construction-productivity-imperative>
34. FMI 2018 Industry Report "Construction Disconnected" http://pg.plangrid.com/rs/572-JSV-775/images/Construction_Disconnected.pdf
35. FMI 2018 Industry Report "Construction Disconnected" http://pg.plangrid.com/rs/572-JSV-775/images/Construction_Disconnected.pdf
36. FMI 2018 Industry Report "Construction Disconnected" http://pg.plangrid.com/rs/572-JSV-775/images/Construction_Disconnected.pdf
37. FMI 2018 Industry Report "Construction Disconnected" http://pg.plangrid.com/rs/572-JSV-775/images/Construction_Disconnected.pdf
38. <https://swagsoft.com.sg/blog/15-virtual-reality-statistics-that-will-rock-the-market-in-2020/>
39. <https://swagsoft.com.sg/blog/15-virtual-reality-statistics-that-will-rock-the-market-in-2020/>
40. <https://www.aia.org/articles/6232562-virtual-reality-is-architectures-next-big->
41. <https://www.sciencedirect.com/science/article/pii/S1474034620300914#b0095>
42. http://ivrtrain.com/ivrtrain/VR_Learn_Report-2017.pdf
43. <https://www.nhi.fhwa.dot.gov/downloads/freebies/172/PR%20Pre-course%20Reading%20Assignment.pdf>
44. <https://blog.csgsolutions.com/15-statistics-prove-power-data-visualization>
45. <https://www.amanet.org/articles/using-visual-language-to-create-the-case-for-change/>
46. <https://www.amanet.org/articles/using-visual-language-to-create-the-case-for-change/>
47. <https://www.amanet.org/articles/using-visual-language-to-create-the-case-for-change/>
48. [https://news.cision.com/xmreality/r/field-study-shows-that-remote-guidance-using-augmented-reality--ar--is-more-effective-than-a-standard-c2658861#:~:text=Swedish-,Field%20Study%20shows%20that%20remote%20guidance%20using%20augmented%20reality%20\(AR\),than%20a%20standard%20video%20call](https://news.cision.com/xmreality/r/field-study-shows-that-remote-guidance-using-augmented-reality--ar--is-more-effective-than-a-standard-c2658861#:~:text=Swedish-,Field%20Study%20shows%20that%20remote%20guidance%20using%20augmented%20reality%20(AR),than%20a%20standard%20video%20call)
49. <https://tmb.apaopen.org/pub/nonverbal-overload/release/2>
50. https://www.tandfonline.com/doi/abs/10.1207/s1532785xmep0104_1

Sources

51. [https://news.cision.com/xmreality/r/field-study-shows-that-remote-guidance-using-augmented-reality--ar--is-more-effective-than-a-standar,c2658861#:~:text=Swedish-,Field%20study%20shows%20that%20remote%20guidance%20using%20augmented%20reality%20\(AR,than%20a%20standard%20video%20call](https://news.cision.com/xmreality/r/field-study-shows-that-remote-guidance-using-augmented-reality--ar--is-more-effective-than-a-standar,c2658861#:~:text=Swedish-,Field%20study%20shows%20that%20remote%20guidance%20using%20augmented%20reality%20(AR,than%20a%20standard%20video%20call)
52. <https://www.amanet.org/articles/using-visual-language-to-create-the-case-for-change/>
53. <https://www.amanet.org/articles/using-visual-language-to-create-the-case-for-change/>
54. <https://www.lasso.io/blogs/10-live-event-statistics-you-need-to-know-for-2022/>
55. <https://visme.co/blog/event-statistics/>
56. <https://www.markletic.com/blog/hybrid-event-statistics/>
57. <https://www.socialtables.com/blog/event-planning/meeting-industry-trends/>
58. <https://visme.co/blog/event-statistics/>
59. <https://www.eventbrite.com/blog/event-statistics-ds00/>
60. <https://www.drift.com/blog/virtual-attendee-engagement-stats/>
61. <https://www.eventindustrynews.com/news/half-of-future-b2b-events-will-be-completely-virtual-and-pandemic-proof-finds-linkedin-research>
62. <https://digitalintheround.com/virtual-tour-statistics/>
63. <https://digitalintheround.com/virtual-tour-statistics/>
64. <http://panomatics.net/web/statistics/>
65. <https://360spaces.co.uk/ROI.pdf>
66. <https://ml-eu.globenewswire.com/Resource/Download/a8c4609d-9602-4f07-987c-0d22521e9eb2>
67. <https://mashable.com/archive/vr-tour-travel-brandspeak>
68. <https://www.tourism.australia.com/content/dam/assets/document/1/6/y/7/t/2003897.pdf>
69. <https://360spaces.co.uk/ROI.pdf>
70. <https://www.webfx.com/blog/marketing/why-virtual-reality-matters-to-marketing-infographic>
71. <https://www.webfx.com/blog/marketing/why-virtual-reality-matters-to-marketing-infographic>
72. <http://www.virtual-reality-in-tourism.com/statistics-about-vr-in-travel/>
73. <http://www.virtual-reality-in-tourism.com/statistics-about-vr-in-travel/>
74. <https://www.tourism.australia.com/content/dam/assets/document/1/6/y/7/t/2003897.pdf>



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