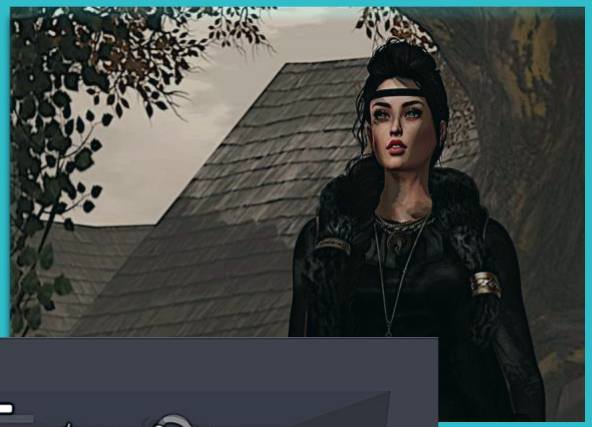
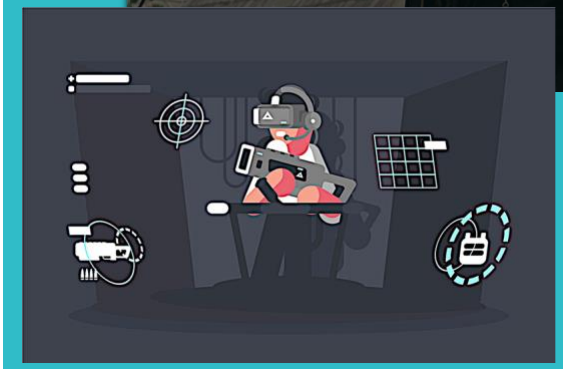
VIRTUAL REALITY IN GAMING

VR IN GAMING



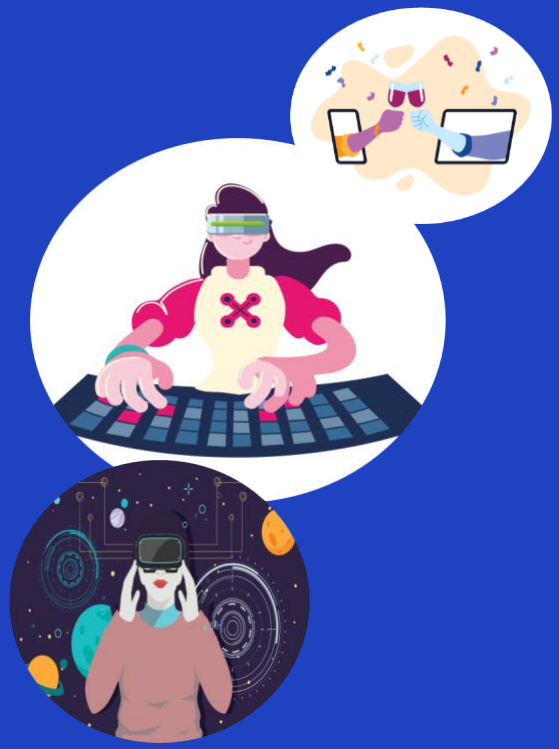


Gaming has become one of the most popular forms of VR in the last few years and is projected to be worth about $50 billion by 2025. [2]

VIRTUAL REALITY (VR) IN STEM

VR IN SCIENCE AND ENGINEERING

VR has proved beneficial to the medical industry in surgical robotics; not only does it allow doctors to visualize their treatments, but it also helped cut long-term expenditures. It has also been useful in aiding engineering students understand 3D models



WHAT IS VIRTUAL REALITY?

ENGINEERING GRAND CHALLENGE #3

"True enhanced virtual reality creates the illusion of actually being in a different space" [1]

Enhanced Virtual Reality is an illusory engineered environment which does more than portray things: it provides the sensation you are truly there.

VIRTUAL REALITY TRAINING

VR IN ATHLETIC TRAINING

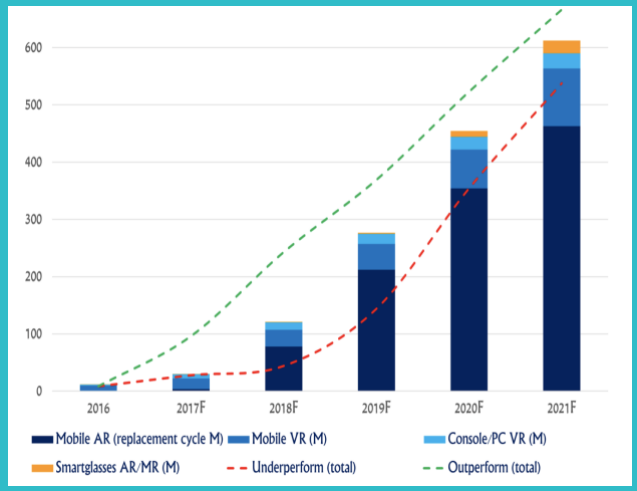
VR is becoming more dominantly used in the sports world. Everyday newer innovations are created to help create the best possible environment for athletes to train with reduced risk of injury. **What better place to train than the virtual world!** [2]

WHY IS ENHANCED VIRTUAL REALITY SO IMPORTANT?

Virtual Reality (VR) is regarded as a significant technology, with the potential for a significant jump in several sectors. As I have shown so far, VR has applications in gaming, training, and STEM, and we are on the cusp of incorporating VR into daily human life. [2]

Although not discussed in detail in this brochure, VR can be beneficial in the military, mental health service, education and even fashion!

FUTURE OF VIRTUAL REALITY



GROWTH OF VR POPULARITY IN THE LAST 6 YEARS [4]

Enhanced VR for the future is looking to evolve into something we called ***mixed reality (MR)***. A reality whereby we can interact with physical and virtual objects in the same and barely tell the difference. It is really exciting worth the future holds with the current advancements in VR technology. [5]

REFERENCES

1. National Academy of Engineering, 14 Grand Challenges for Engineering in the 21st Century, "Enhance Virtual Reality" http://www.engineeringchallenges.org/challenges/virtualreality.aspx
2. Alluminated, "Why Enhancing Virtual Reality is so Important", August 11, 2021. https://medium.com/predict/why-enhancing-virtual-reality-is-important-ac19dd21c728
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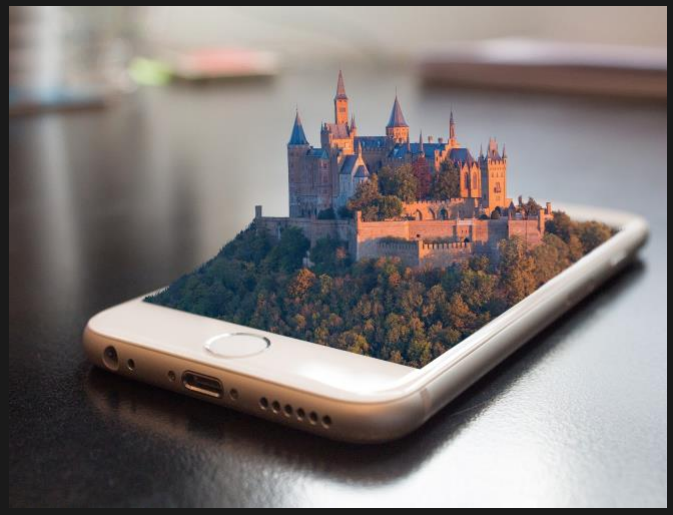
4. Tim Merel, "The reality of VR/AR growth", January 2017. https://techcrunch.com/2017/01/11/the-reality-of-vrar-growth/
5. Bernard Mar, "The Future of VR", December 18,2020. https://www.forbes.com/sites/bernardmarr/2020/12/18/the-future-of-virtual-reality-vr/?sh=62f4799c27be

THE SIGNIFICANCE OF VR IN TODAY'S WORLD



A transient perspective on the fast-track development of Virtual Reality (VR) in today's world. In this brochure we look at one of the *14 engineering grand challenges,* "Enhance Virtual Reality".

VIRTUAL REALITY (VR) IN STEM

In **science**, VR is used in space exploration. For instance, why send astronauts on perilous space exploration missions when there are cheap VR applications that allow students to explore the milky-way, Galaxy?

The applications for space exploration are virtually unlimited. In **technology**, VR is used to bring together world renowned architects to undertake arduous projects and also to provide a guiding light for the talented up and coming architects in various universities and institutions around the world.
In **Engineering** you ask? VR is already being used to spot potential design flaws in the manufacture of cars and aircrafts. As well as deconstructing prototypes of machinery to study, experiment and improve. **The future of VR in STEM is bright**. [2]

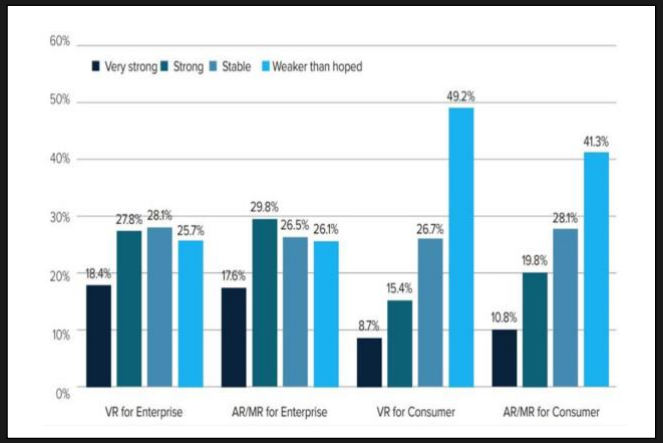
VIRTUAL REALITY IN SOCIALIZING

There are currently a variety of VR based social networks, such as VR space, Altspace VR, and Rec Room that allow friends and strangers to meet up and chat or play in virtual worlds. [2]. CEOs of varying companies have already started using VR worlds a gathering place for important office meetings.

VIRTUAL REALITY

VS

AUGMENTED REALITY



How companies globally described VR and AR growth in 2019. (Graph courtesy Virtual Intelligence).

For years, there have been debates on which is better VR or AR. However, the choice is obvious, it's simply a matter of preference. AR and VR are fundamentally different, they differ from the base technology to the very reality conjured. AR in simplified terms is augmenting reality adding i.e., additional information to your physical environment such as the popularized AR game ***Pokémon GO*****.** VR on the other hand, takes you to an entirely different world that was created by manufacturers. one is not able to visually perceive the outside physical world within VR, Virtual realities such as ***Oculus Quest***. As shown, they are fundamentally different, the choice on reality is solely preference. [5]

ACCOMPLISHMENTS OF VIRTUAL REALITY

VR has proved beneficial to the medical industry in surgical robotics; not only does it allow doctors to visualize their treatments, but it also helped cut long-term expenditures. It has also been useful in aiding engineering students understand 3D models. VR has had a big impact on the gaming industry. Gaming has become one of the most popular forms of VR in the last few years and is projected to be worth about $50 billion by 2025. VR is becoming more dominantly used in the sports world. Everyday newer innovations are created to help create the best possible environment for athletes to train with reduced risk of injury. What better place to train than the virtual world! [2].

FUTURE OF VIRTUAL REALITY

Enhanced VR for the future is looking to evolve into something we called ***mixed reality (MR)***. A reality whereby we can interact with physical and virtual objects in the same and barely tell the difference. It is really exciting worth the future holds with the current advancements in VR technology. [5]

REFERENCES

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