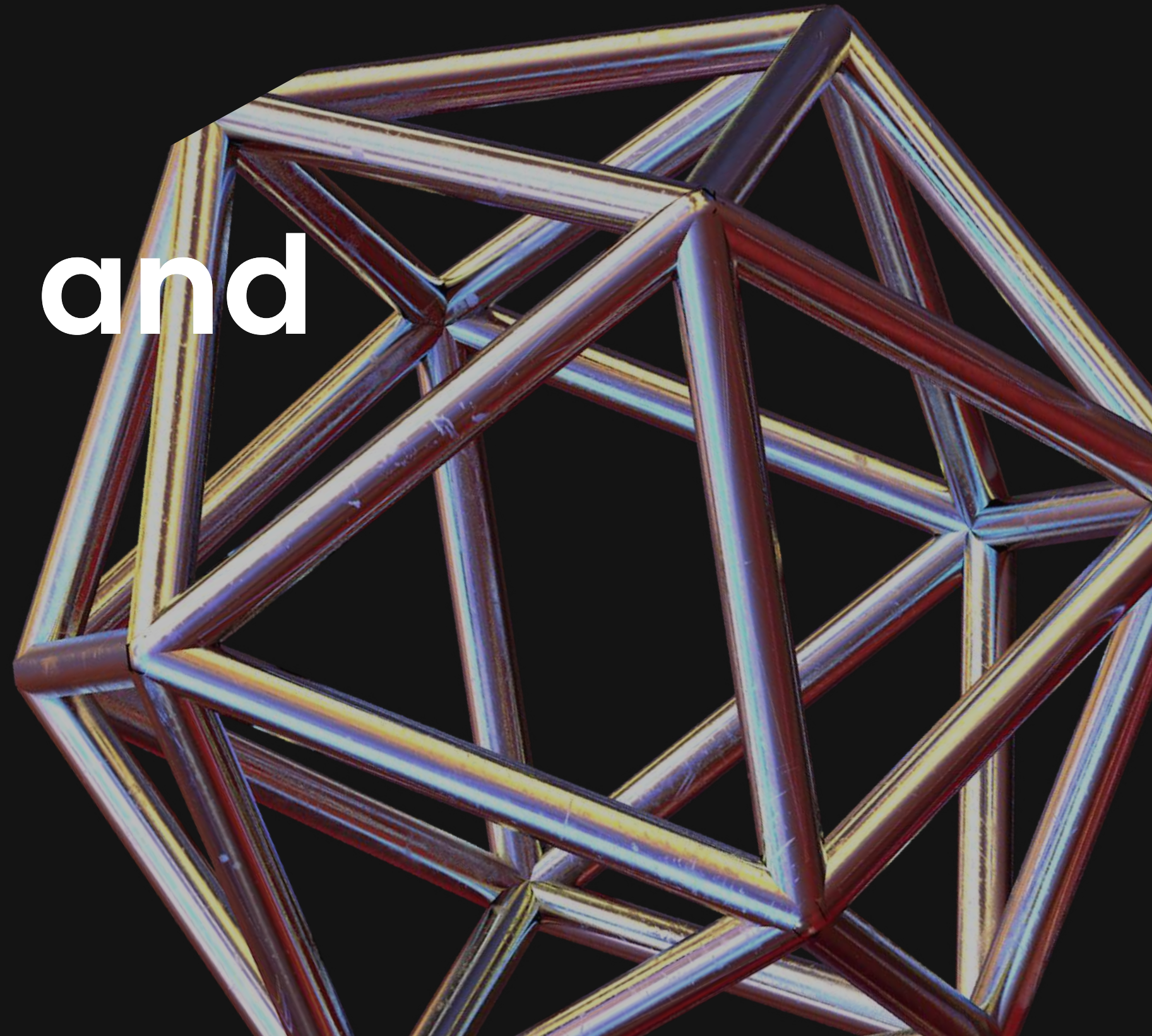# AR
Impact on retail and e-commerce

- By Team **All Out**

- Samyak Sharma
- Shaleen Kakkad
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Index

Unlocking the Reality

Augmented reality (AR) is an enhanced version of the real physical world that is achieved through the use of digital visual elements, sound, or other sensory stimuli delivered via technology.

It involves overlaying visual, auditory, or other sensory information onto the world in order to enhance one's experience.

Retailers and other companies can use AR to promote products or services, launch novel marketing campaigns and collect unique user data.

As per recent data, by 2024 there will be an estimated **1.7 billion** mobile augmented reality (AR) users worldwide, a rise of **1.5 billion** from the 200 million seen in 2015. In 2022, there will be an estimated 1.1 billion mobile AR users worldwide.
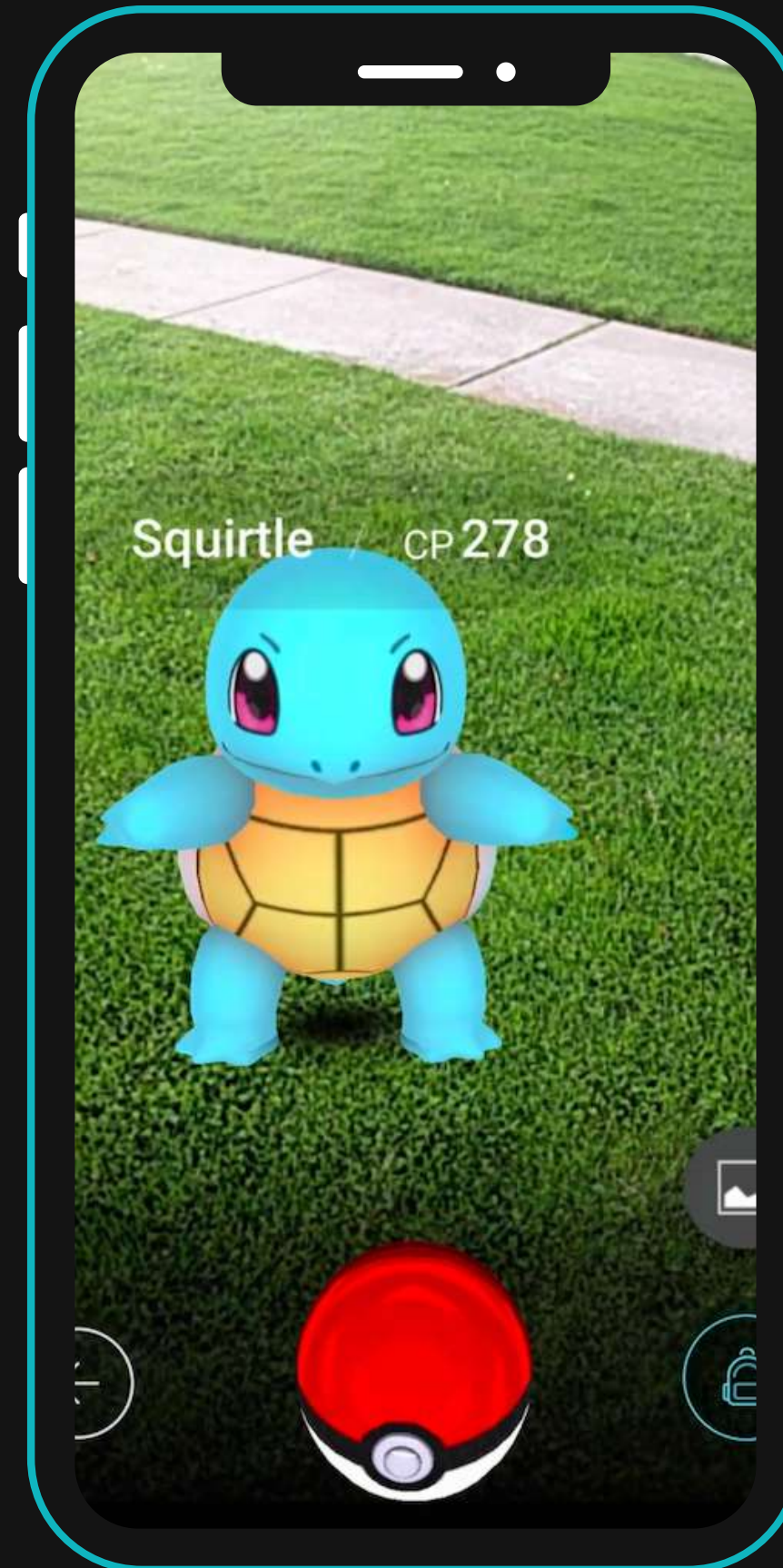
What is AR?

THE MILESTONES

1990
Boeing researcher, Tom Caudell, coins the term "Augmented Reality"

1992
First immersive AR system at US Airforce

1999
AR HMD invented by Steve Mann & James Fung

2000
ARquake
First outdoor Mobile AR game

2008
WikiTube layer Mini BMW
Range of published apps.

2012
Google Glass
High Profile AR public launch in 2014.

2013
The Volkswagen MARTA
Provides step by stem virtual repair assistance.

2016
HoloLens1
Microsoft HMD

2019
WebAR technology
For easy AR accessibility through Smartphones.

2021+
AppleAR
FaceBook
Google
Snapchat

Advent of AR

Video Games 🔴

Gaming Industry - One of the first industries to embrace AR technology on a large scale. Niantic's AR based mobile game Pokémon Go(released in 2016) books a revenue of $5.5 billion with 500 million+ downloads by 2021

Fashion and Accessories

AR technology enables customers to experience products virtually from the comfort of their homes. By 2022, over 120,000 stores will leverage augmented reality. With the number of AR-capable devices in the world expected to grow to over 4 billion

AR
USES

Manufacturing

Industry and Manufacturing - The industrial & manufacturing segment in AR's market share accounted for the largest revenue share of 24.3% in 2021. Volkswagen has used AR for comparing calculated and actual crash test imagery.AR has been used to visualize and modify car body structure and engine layout.
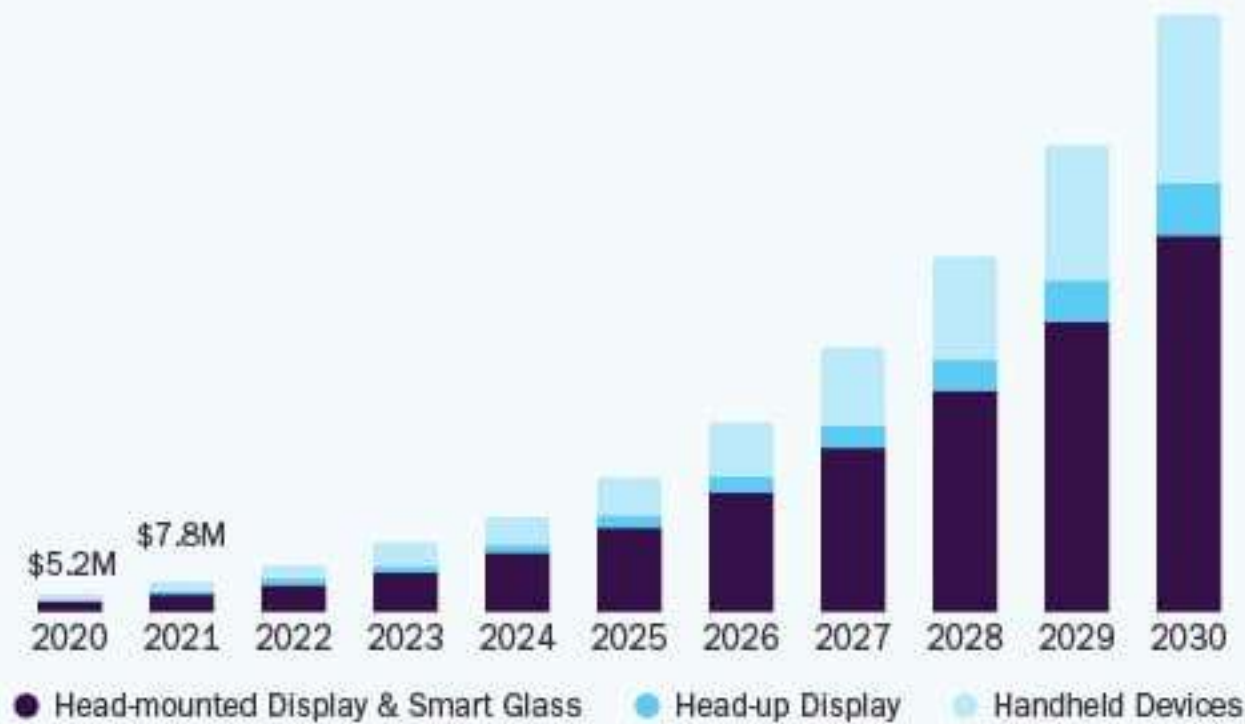
E-Commerce ₹

Augmented reality (AR) bridges the gap felt by customers between physical stores and online shopping experiences. It allows ecommerce customers to preview products or experience services in their own environment and on their own time, before electing to make a purchase.

U.S. Augmented Reality Market

size, by display, 2020 - 2030 (USD Billion)

GVR
GRAND VIEW RESEARCH

40.9%
U.S. Market CAGR,
2022 - 2030

$5.2M $7.8M

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030

● Head-mounted Display & Smart Glass   ● Head-up Display   ● Handheld Devices

Source:
www.grandviewresearch.com

Lenskart Trumps Customer Experience with Augmented Reality

◆ APN NEWS
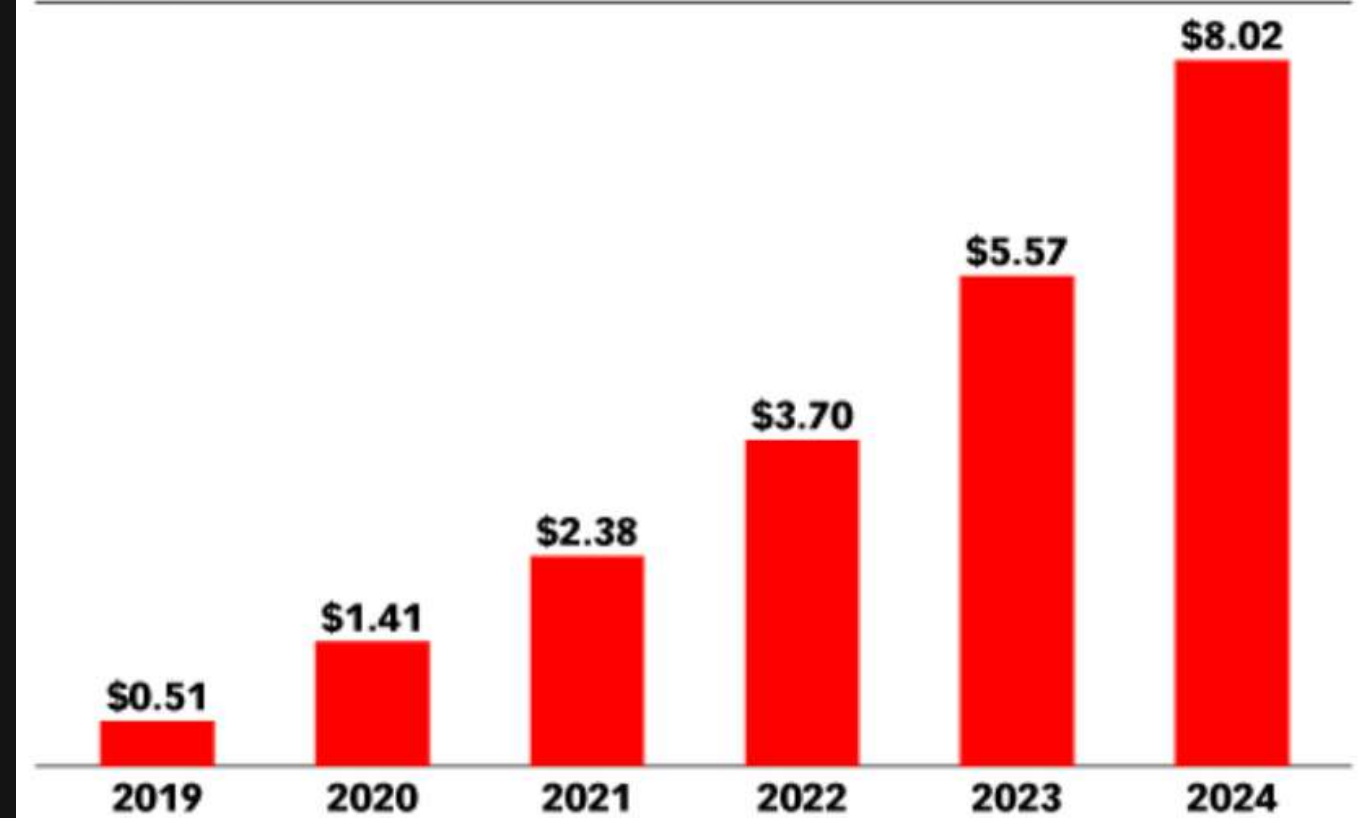
Enhancing the Driving Experience With Augmented Reality

LG Newsroom

IKEA Launches Augmented Reality Application

ARCHITECT

Mobile AR Advertising Revenues Worldwide, 2019-2024

billions

$0.51 $1.41 $2.38 $3.70 $5.57 $8.02

2019   2020   2021   2022   2023   2024

Source: ARtillery Intelligence and Thrive Analytics, "AR Usage & Consumer Attitudes, Wave III," June 9, 2020

Customer Analysis

Enhance customer confidence

71%

Of consumers say they would shop more often if they used AR.

Accelerate Sales

61%

Of consumers say they prefer retailers with AR experiences

Conversion Rate

40%

Higher conversion rates with AR.

Future of retail

5%

of AR use will be in retail by 2022.

Product Understanding

39%

of AR retailers use AR for the consideration phase.

Market Analysis

CURRENT STATISTICS

- USD 25.53 billion AR market size value in 2021.

- e-commerce sales in 2021 were estimated to have been $4.90 trillion globally.

- Global AR advertising revenue grew to $2.38 billion in 2021.

FUTURE LANDSCAPE

- The augmented reality and virtual reality market for the retail industry alone is expected to reach $2,094.08 billion by 2027.

- The industry will witness compound annual growth at a rate of 40.9% in the forecast period of 2020 to 2030.
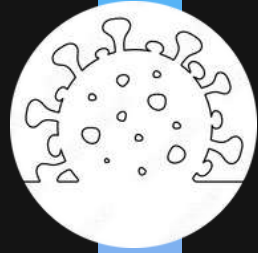
IMPACT OF COVID

- The shutdown of many retail stores spurred some marketers to invest more in AR as a way to offer virtual try-on and other experiences typically only available in-store

- Shopping is likely to continue evolving virtually. Offerings like digital catalogues (leveraging AR) will enable customers to shop without leaving the comfort of their homes.

- Virtual events, conferences, product launches, and online showcases are likely to increase.

- Shopping is likely to continue evolving virtually. Offerings like digital catalogues will enable customers to shop without leaving the comfort of their homes.

Market Analysis

AR IN e-COMMERCE

## Virtual Try-on Solutions:

Nike Fit, the foot measuring feature is an AR based technology that Nike has been able to successfully implement both in-store and on its app, making e-commerce and retail shopping a much easier experience for its customers.

Lenskart Solutions Pvt Ltd. is using AR technology in the mobile app to allow individuals to superimpose spectacles, sunglasses, and other products virtually on their faces before making a buying decision.

How does AR help e-commerce?
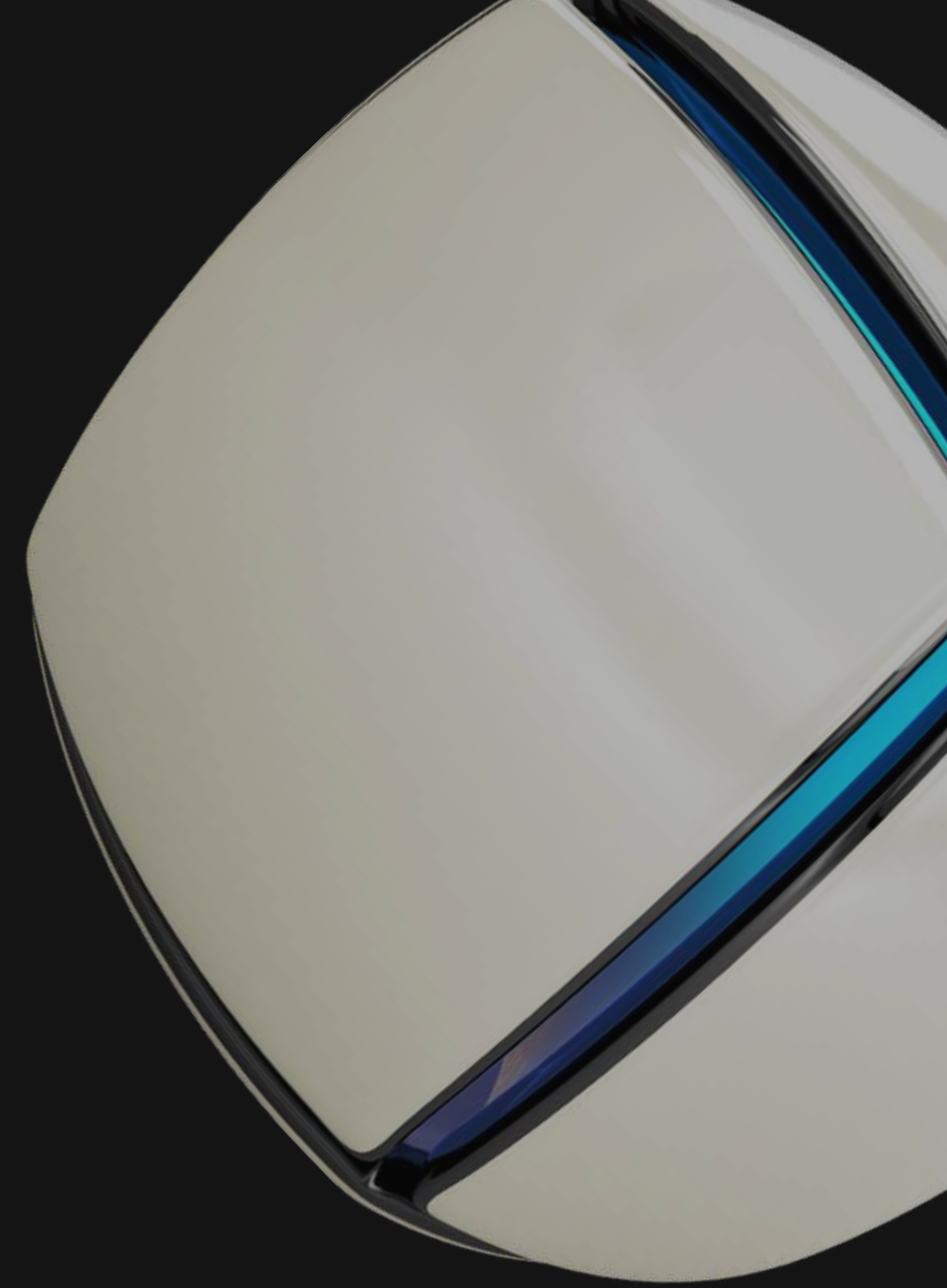
Preview placement:

IKEA place, With the release of iOS 14 and Apple's ARKit, IKEA has releases its AR app to help costumes visualise what their furniture might look like in their own homes.

LG Corporation, implementing AR features on its electronics website allows users to witness how a particular television set would look in their house on their mobile phones before they make a buying decision.

Interactive user manuals:

BMW's R&D base at Munich for cloud-based visualisations and smart object recognition, the German automotive giant has added augmented reality (AR) to its prototype testing for a range of concept variants and assembly processes.

Using augmented reality technology developed by Alibaba , **L'Oreal** has installed interactive devices in its Shanghai, Wuhan, and Changsha boutiques. Dubbed " Magic Mirrors ," the devices build on the functionality in the Genius apps, but with the added fun of being able to look in a real mirror.
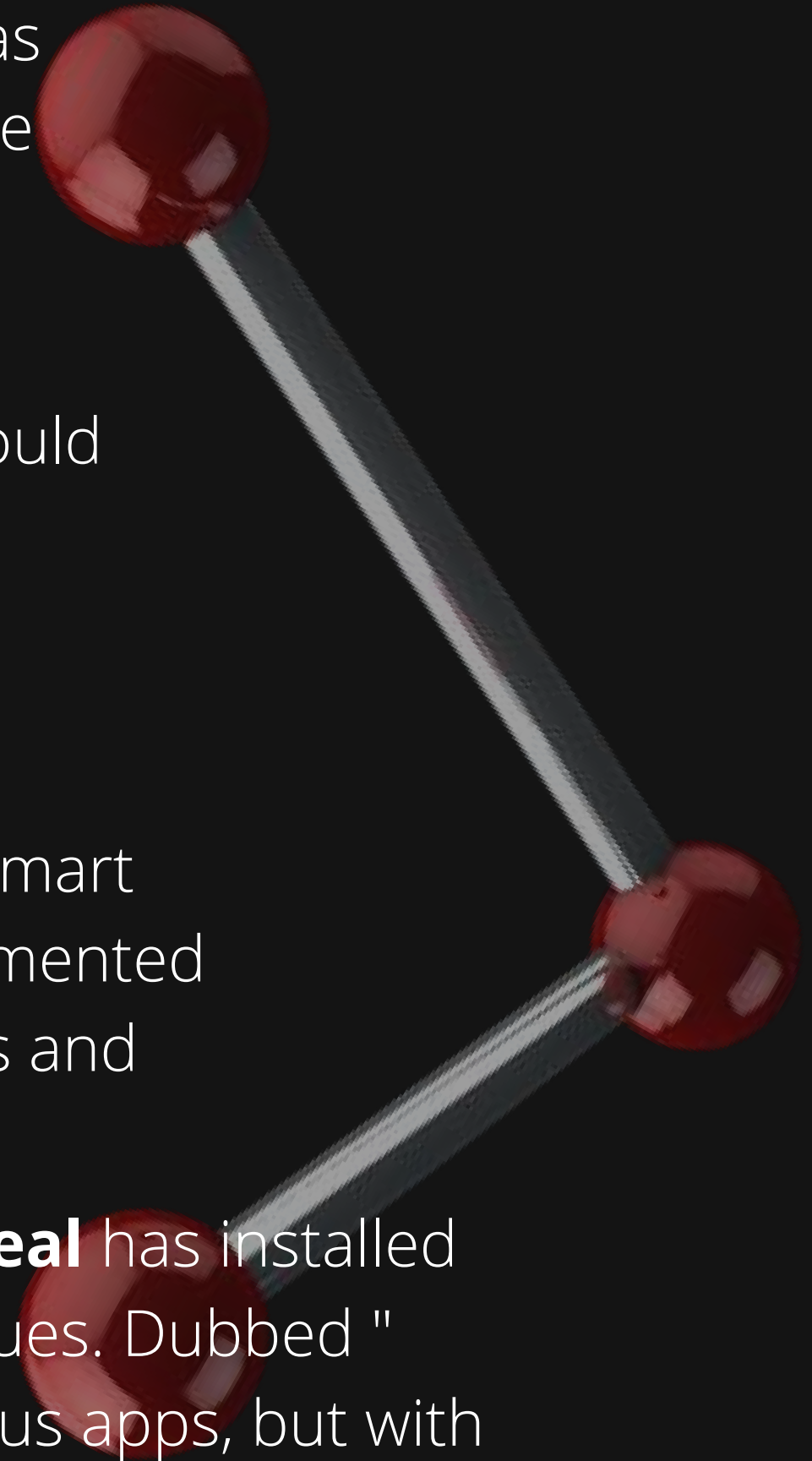
Social Media Filters

Augmented reality (AR) filters are computer-generated effects designed to be superimposed on real-life images. AR filters work with your camera, adding a layer or imagery in the foreground or background of your image.

We all must have come across the use of Filters majorly over **Snapchat** and **Instagram**.

The use of Filters, that has maximum contribution of AR has increased the use as well as screen time of these apps.

How does AR help e-commerce?

CHALLENGES

The biggest problem in using AR in e-commerce and retail is **Lack of Proven Business Models.**

Security & Privacy Issues with Augmented Reality, the biggest issue is that no actual regulation designates what is allowed and what is not in the augmented reality environment.
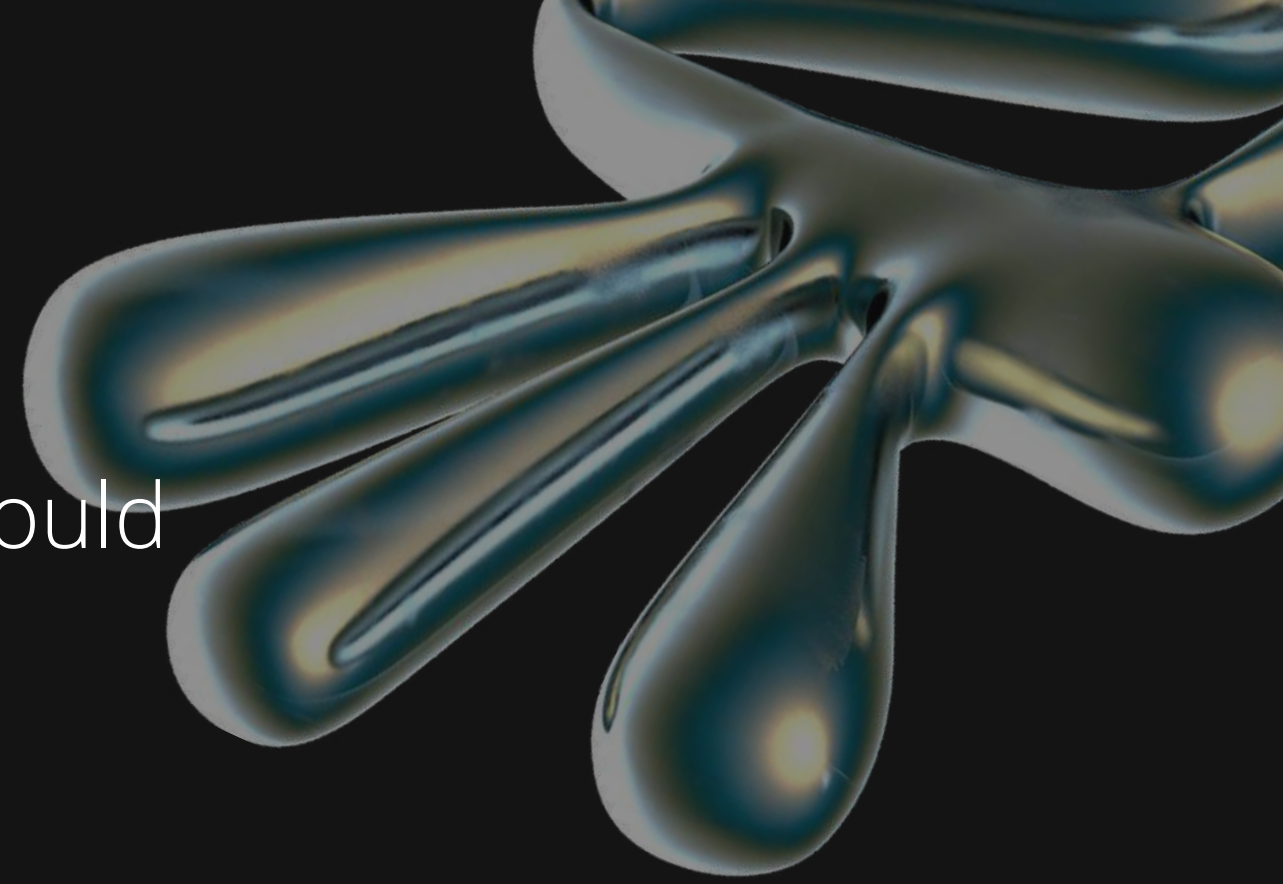
The Possibility of Physical Harm. Augmented Reality operates in the real world and adds a little bit of digital into it. These elements are driving attention away from reality which may cause a potentially dangerous situation. For the same reason, PokemonGo faced a lot of resistance in countries like Australia.

Appendix

Along with offering 3D views, you can show what a product would look like in a consumer's space, making it less likely that they receive the product only to find it doesn't look as anticipated.

Some product categories can be a tough sell on ecommerce sites because it's so difficult to interpret how the products will look in real life versus a computer or mobile screen. That's why augmented reality applications, particularly since the onset of social distancing, are on the rise.

Sources

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Appendix

Does AR create cost reduction in Retail and e-commerce?

- AR overlays resources onto real-life items to create a custom training experience that allows for quick access to videos and other immersive materials. A quick resolution time saves money in the long run because the earlier a problem is fixed, the better and less costly it is.

- Manufacturing companies can reduce training costs by leveraging AR to educate workers on their products and the procedures required to fix and maintain them. By sourcing digital information. AR experiences are less expensive to produce than printed manuals, as well as being more eco friendly. Trainees can also access AR experiences from anywhere, minimizing the need for them to travel to a staged manufacturing environment.

- While new technicians still require intensive training, businesses that leverage AR dont carry the same cost burden during their onboarding period.

Thank you!

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