



# CONSUMER AR: WHEN, HOW AND HOW BIG?

MIKE BOLAND, CHIEF ANALYST,  
ARTILLRY INTELLIGENCE

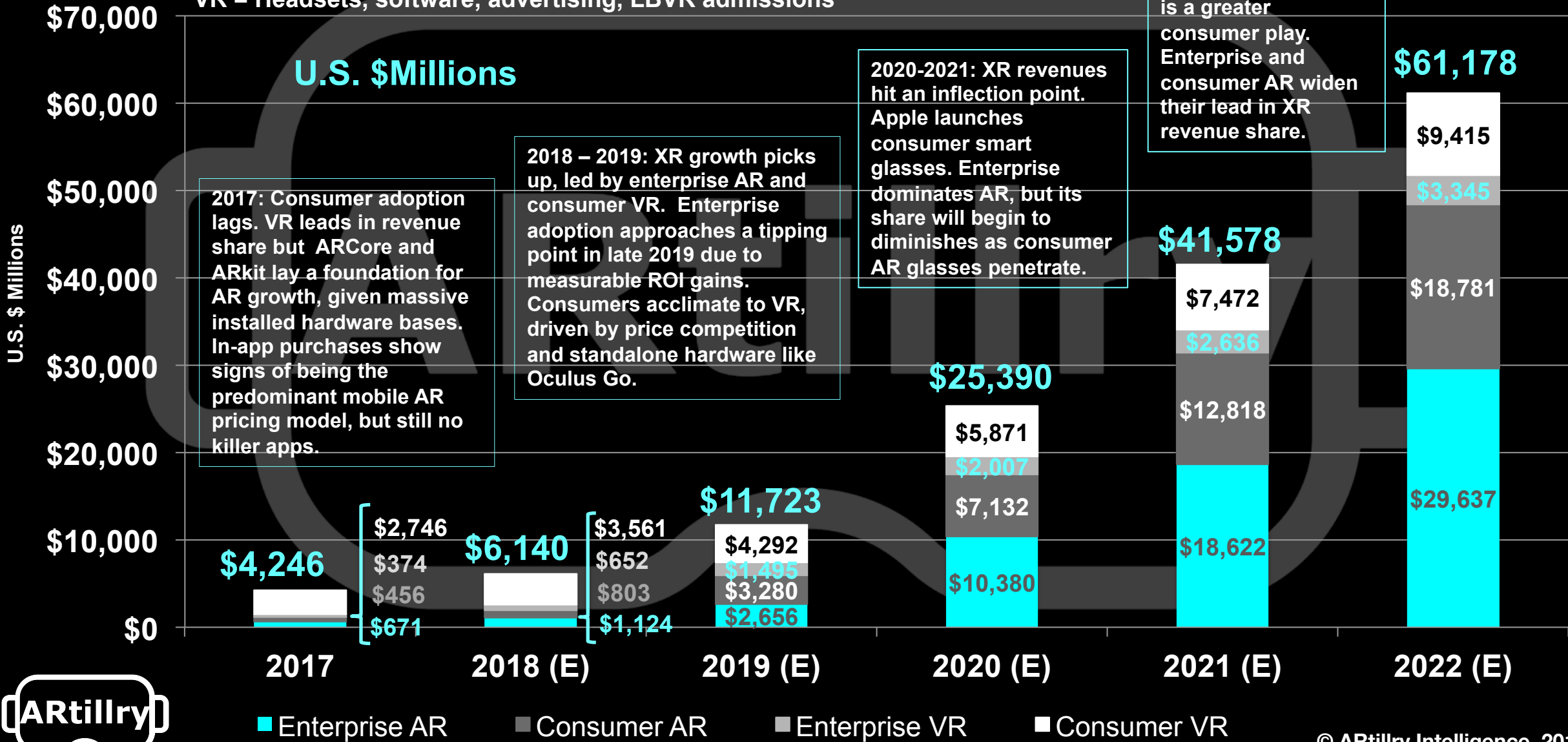
AWE NITE: MAY 17, 2018



# GLOBAL XR REVENUE OVERVIEW

(DETAILED VIEW)

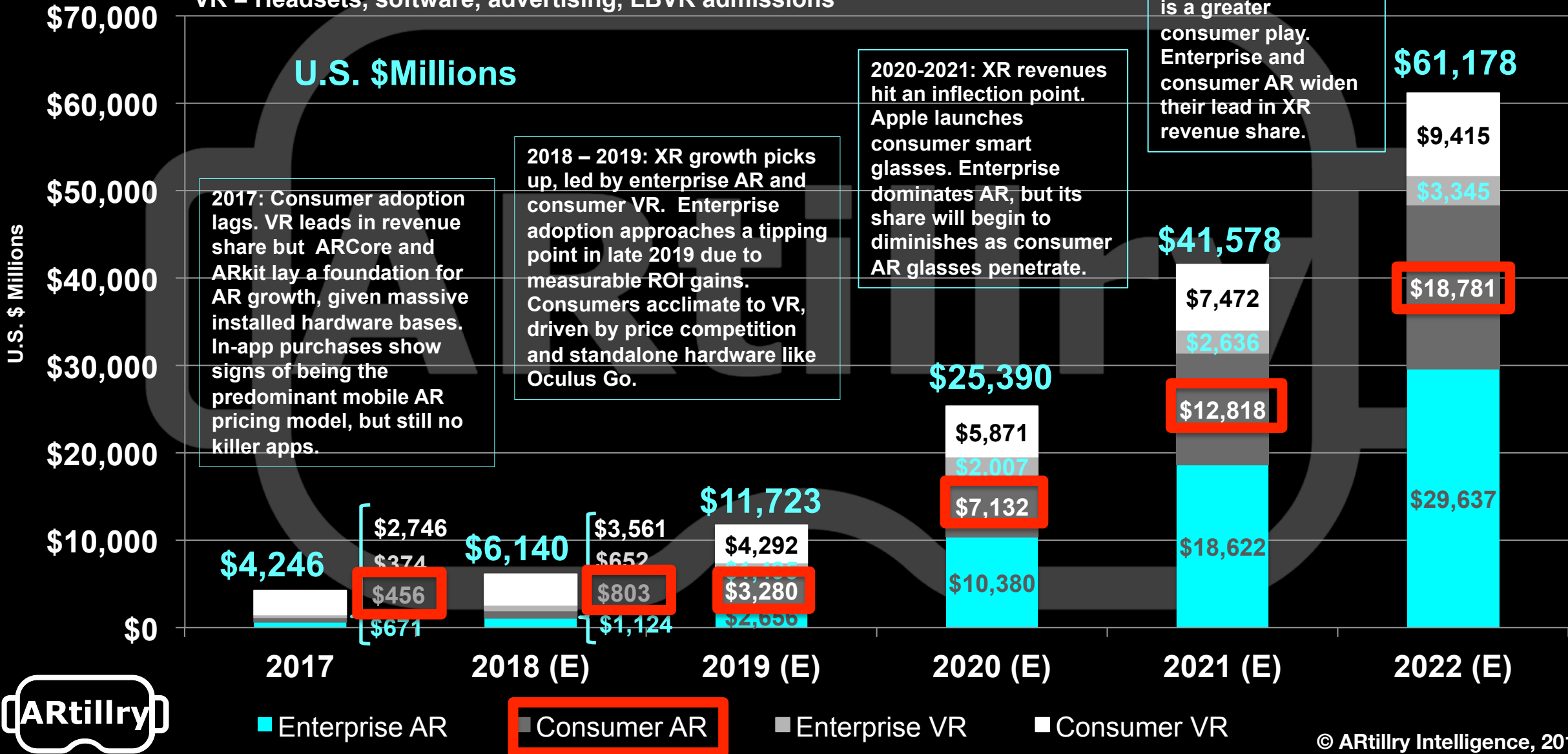
AR = Smart glasses, software (games, apps, etc.), advertising  
VR = Headsets, software, advertising, LBVR admissions



# GLOBAL XR REVENUE OVERVIEW

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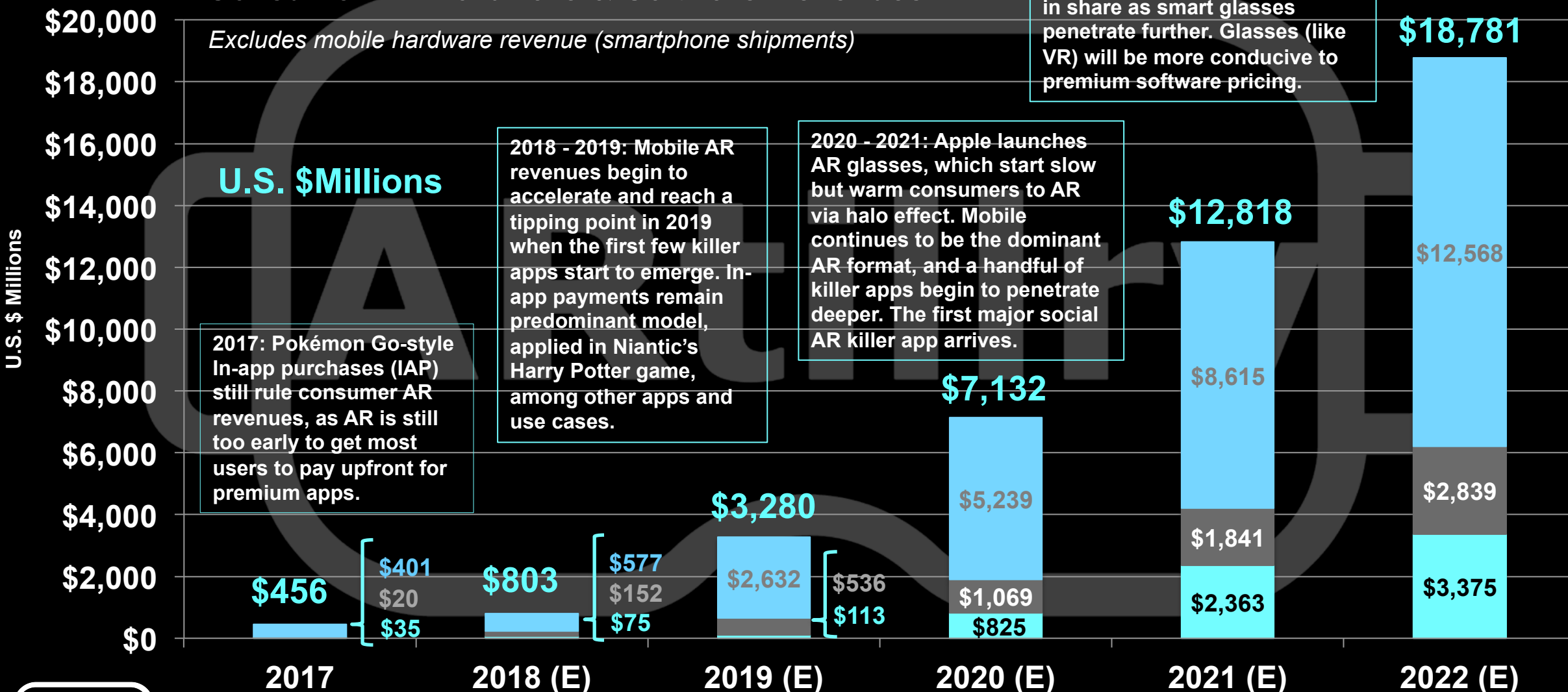


# CONSUMER AR DRILL DOWN

(DETAILED VIEW)

## Consumer AR Hardware & Software Revenues

*Excludes mobile hardware revenue (smartphone shipments)*



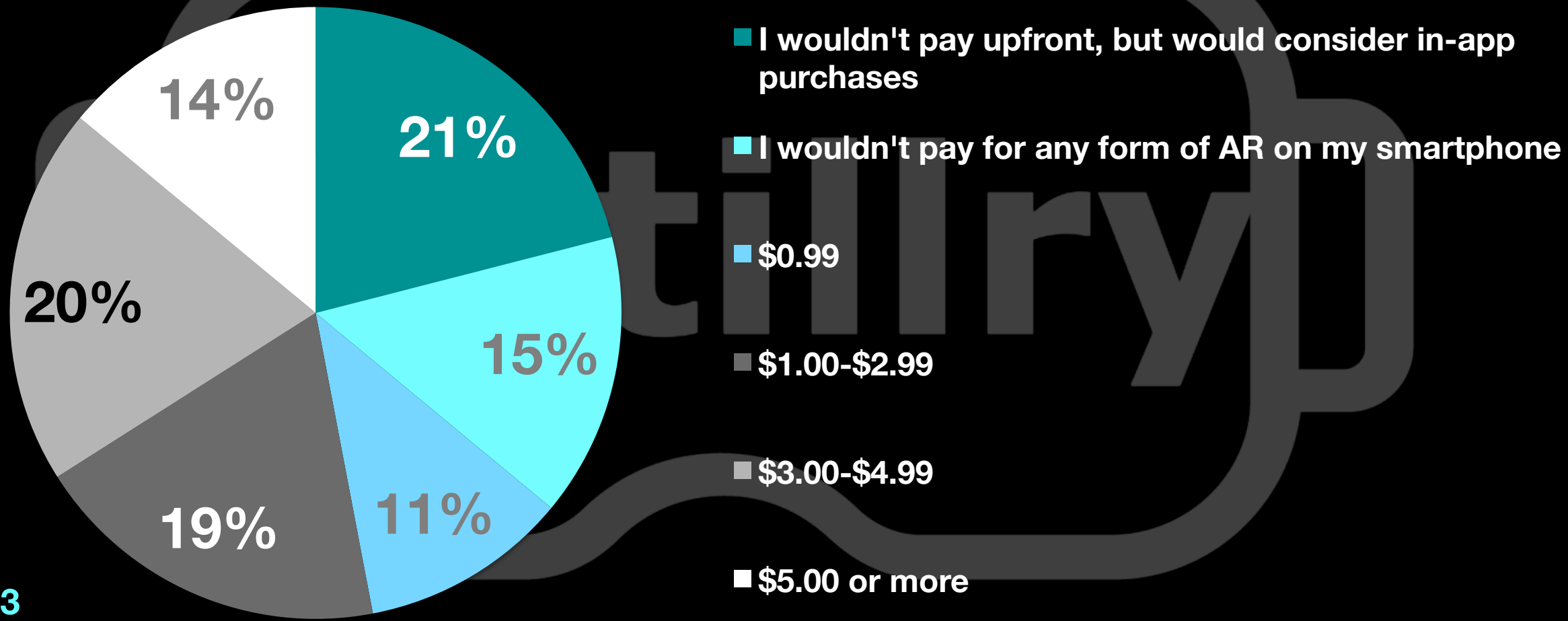
■ Hardware (Glasses) ■ Premium Apps (Mobile & Glasses) ■ In-App Purchases (Mobile & Glasses)

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# MOBILE AR APP PRICING (CURRENT USERS)

WHAT IS THE MOST YOU WOULD PAY FOR A MOBILE AR APP?

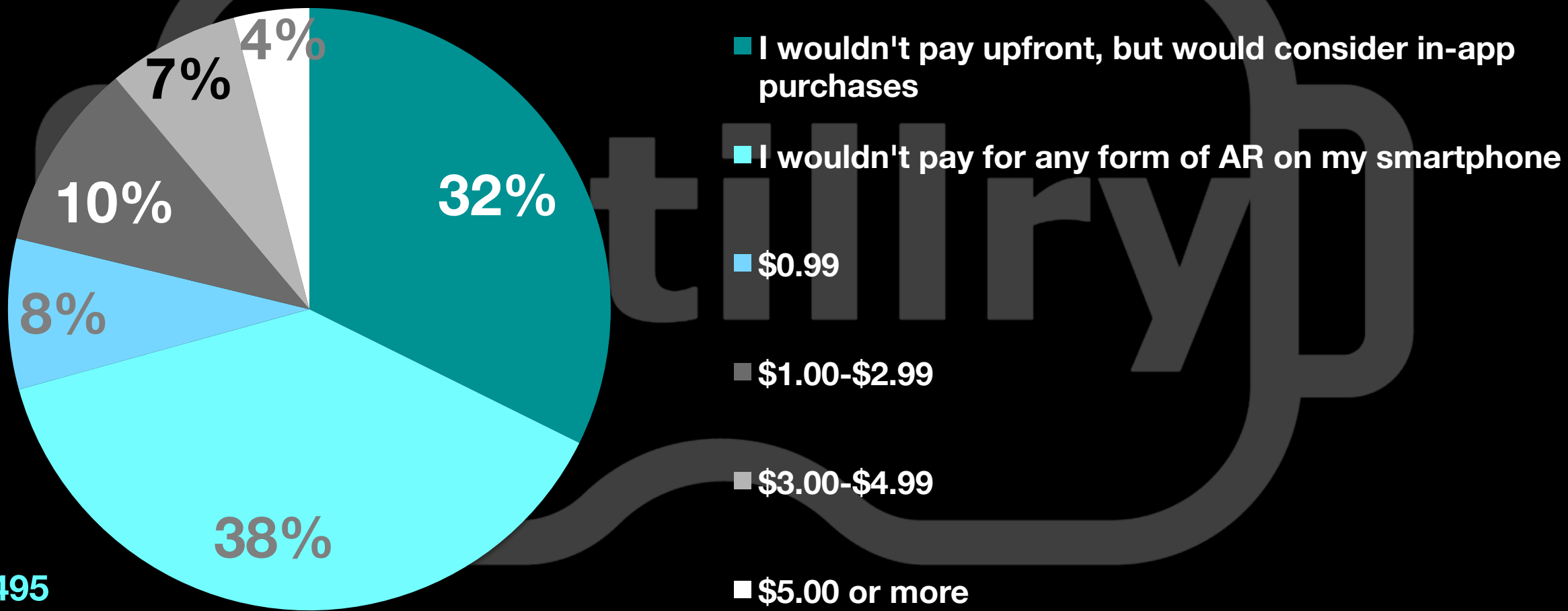


N= 703



# MOBILE AR APP PRICING (NON- USERS)

WHAT IS THE MOST YOU WOULD PAY FOR A MOBILE AR APP?

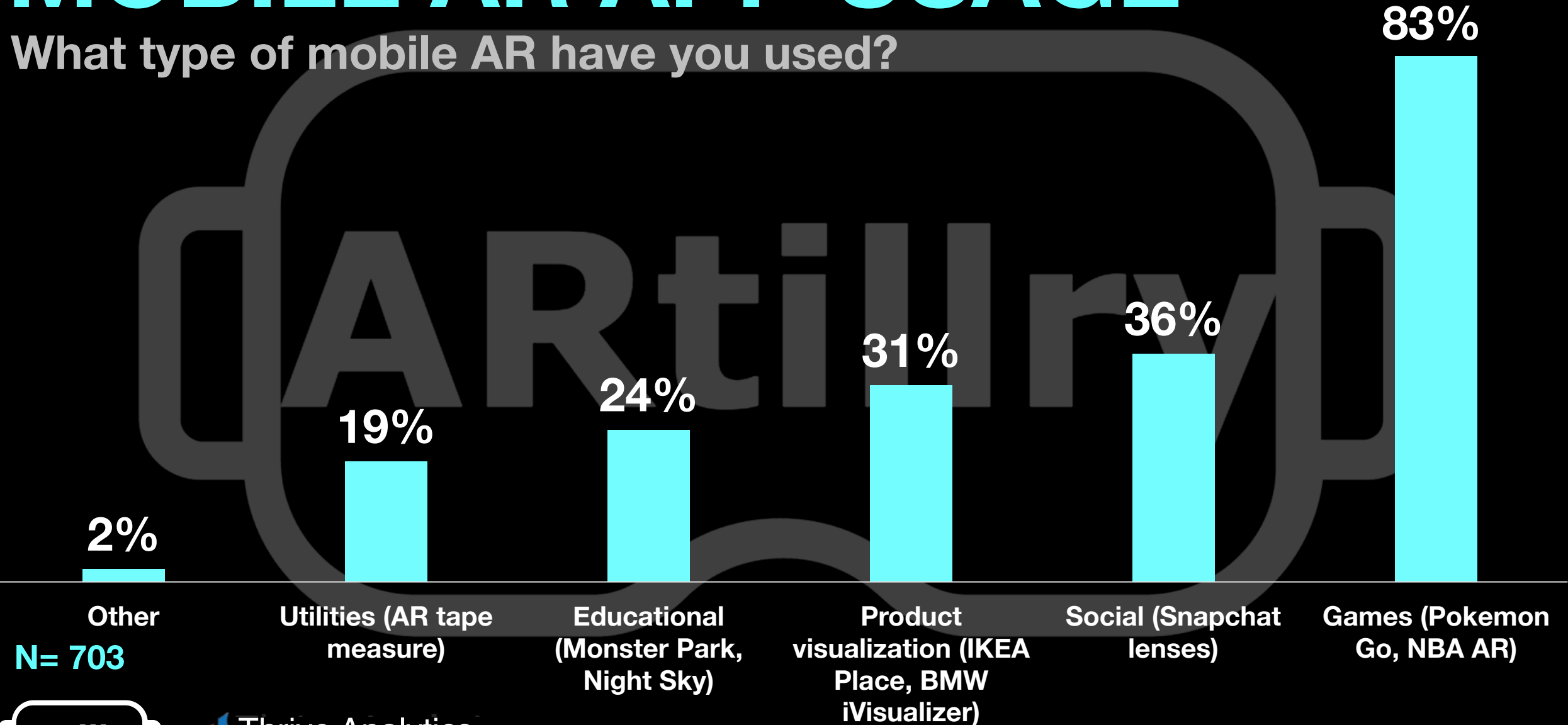


N= 1,495



# MOBILE AR APP USAGE

What type of mobile AR have you used?



N= 703

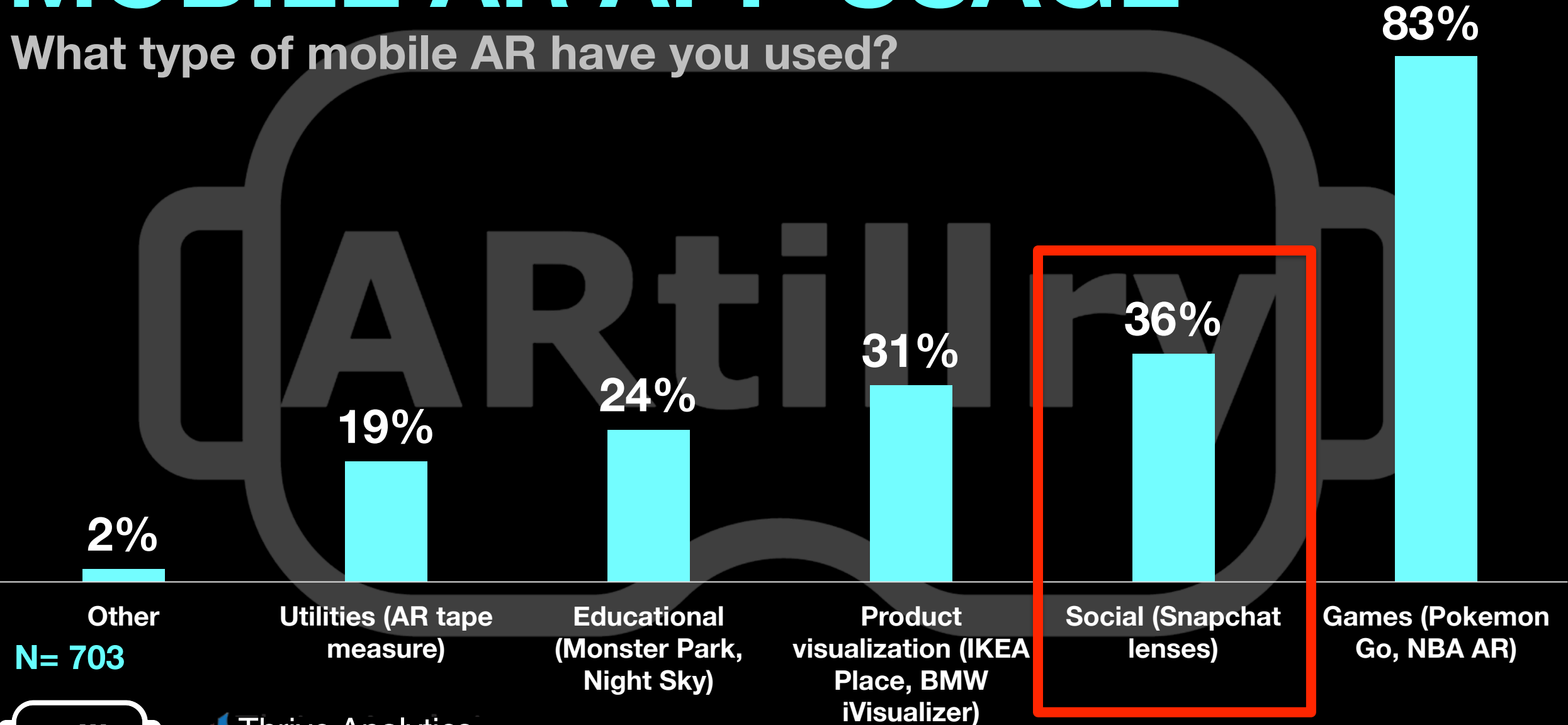


Thrive Analytics  
smart decisions that drive success



# MOBILE AR APP USAGE

What type of mobile AR have you used?

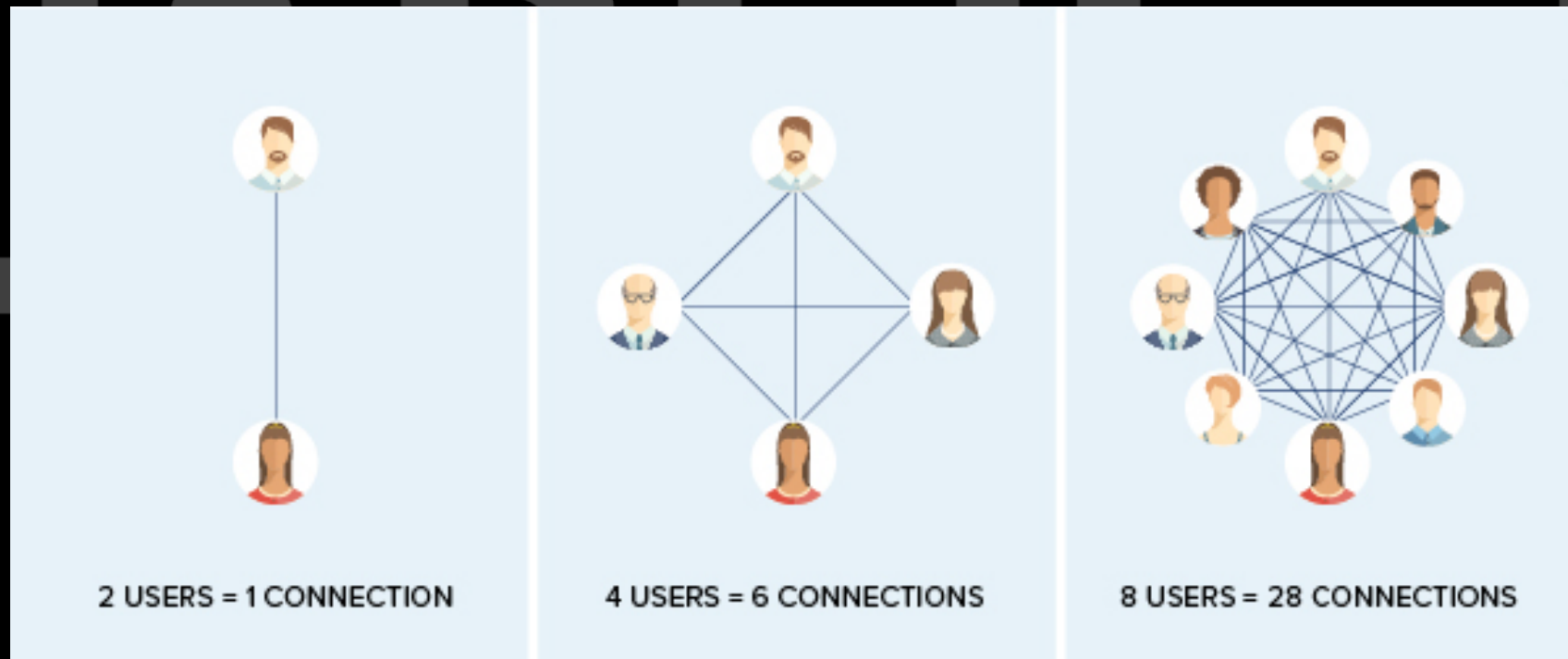


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**“There’s been an evolution of killer apps on the internet and I suspect that the same thing is going to happen in AR... I keep hearing that AR and VR are useful for gaming, and training. Somewhere in there is going to be the killer app and I’m confident it will be networked.”**  
**-- Bob Metcalfe**



# SOCIAL AR LEADING INDICATOR:

Snapchat Lenses are used by **70 million** people per day, at an average of **3 minutes each**, which translates to **500 years** of play time per day.

**But... that only scratches the surface.**  
**The real action is in *synchronous* AR.**

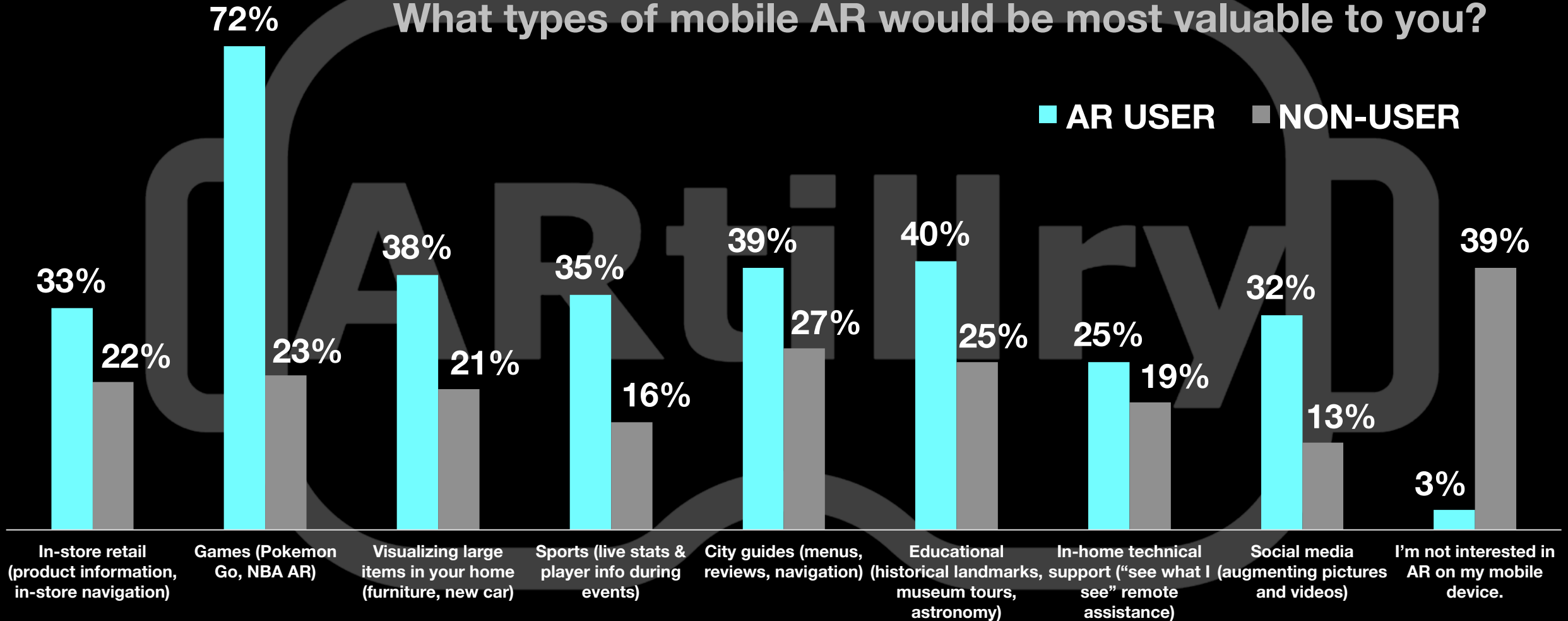






# MOBILE AR APPS IN DEMAND

What types of mobile AR would be most valuable to you?



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smart decisions that drive success

N= 2,198

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# MOBILE AR APPS IN DEMAND

What types of mobile AR would be most valuable to you?

■ AR USER ■ NON-USER

72%

33%

22%

In-store retail  
(product information,  
in-store navigation)

Games (Pokemon  
Go, NBA AR)

38%

21%

Visualizing large  
items in your home  
(furniture, new car)

35%

16%

Sports (live stats &  
player info during  
events)

39%

27%

City guides (menus,  
reviews, navigation)

40%

25%

Educational  
historical landmarks, museum tours,  
astronomy)

25%

19%

In-home technical  
support ("see what I  
see" remote  
assistance)

32%

13%

Social media  
(augmenting pictures  
and videos)

3%

I'm not interested in  
AR on my mobile  
device.

39%



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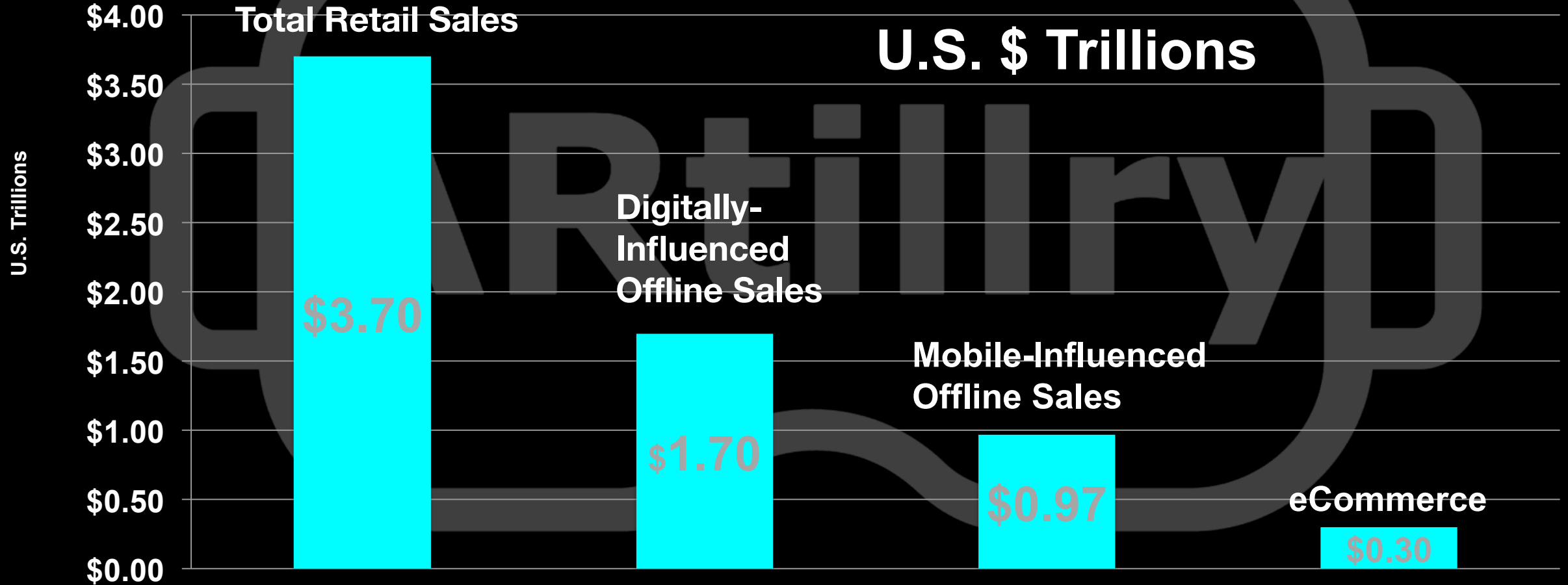
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# U.S. CONSUMER SPENDING

AR'S ADDRESSABLE MARKET WILL MAP TO WHERE THE MONEY IS BEING SPENT

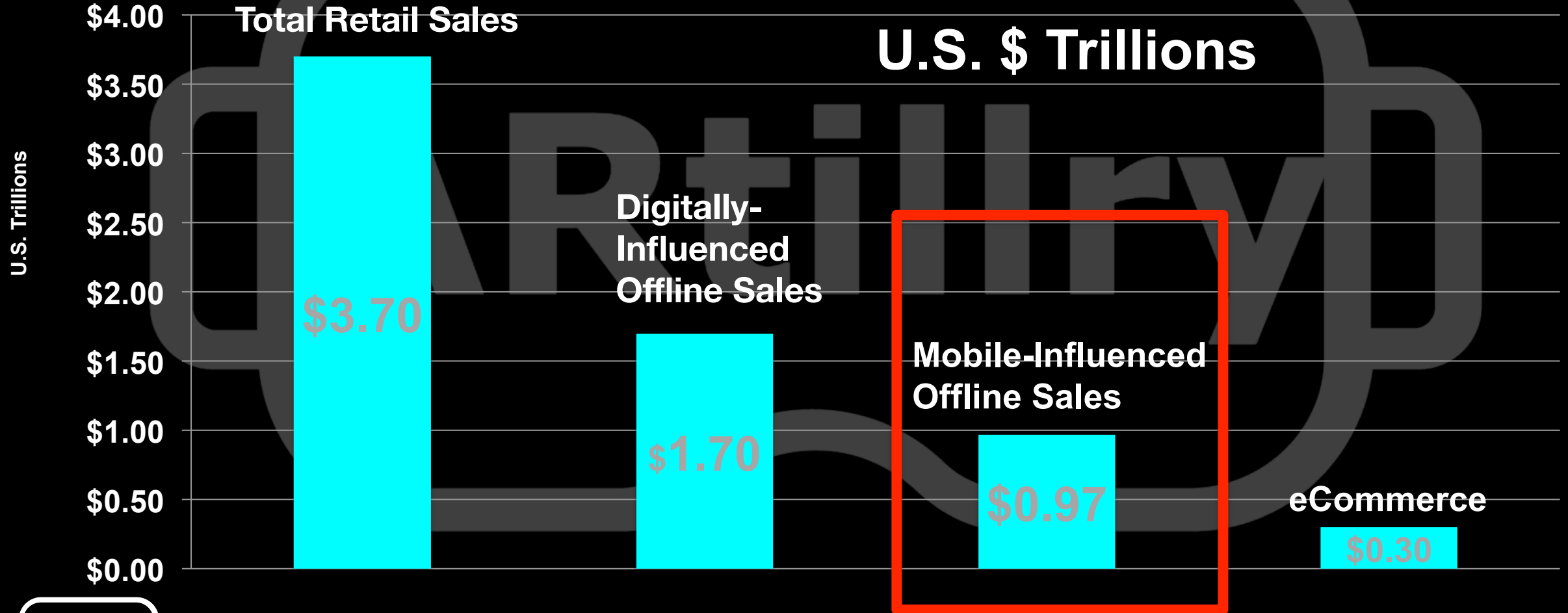


Source: Deloitte Digital

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# U.S. CONSUMER SPENDING

AR'S ADDRESSABLE MARKET WILL MAP TO WHERE THE MONEY IS BEING SPENT



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# WILD CARDS




## Persistence

-  Will Google's cloud anchors work as advertised?
-  Will Apple announce Multi-player at WWDC? What else?
-  Will better technology come from focused startups?

## Occlusion

-  Items two blocks away can't appear in view
-  This has turned off many AR newbies expecting logical digital interactions




## Fragmentation

-  Will platform interoperability slow AR's growth?
-  Will the AR cloud be fragmented by individual interests (and is that a bad thing)?
-  Digital asset ownership, protection, compensation and incentive

## Formats

-  What will be the delivery vessel: Apps vs. Web XR?
-  Common inputs and gestural languages, evolving UX standards

## Native Product Development

-  iPhone killer apps took 2-3 years to emerge (Uber, Waze, Foursquare, etc.)
-  Those apps were far from what anyone imagined in 2007
-  AR's killer apps will be far from what anyone imagined in 2017



# VIDEO COMPANION

(CLICK LINK TO PLAY VIDEO)

[https://youtu.be/\\_UTq8K\\_wbSM](https://youtu.be/_UTq8K_wbSM)





# ABOUT ARTILLRY INTELLIGENCE

ARtillery is a publication and intelligence firm that examines augmented reality (AR) and virtual reality (VR). Through writings, data and multimedia, it provides deep and analytical views into the industry's biggest players and opportunities. It's about insights, not cheerleading.

Run by career analyst and journalist Mike Boland, coverage is grounded in a disciplined and journalistic approach. It also maintains a business angle: Though fun and games permeate VR and AR (especially the former) long-term cultural, technological and financial implications are primary.

Learn more at <https://artillery.co/about/>



# METHODOLOGY

*ARtillery Intelligence* follows disciplined best practices in market sizing and forecasting, developed and reinforced through its principles' 15 years in research and intelligence in the tech sector. This includes the past 2.5 years covering AR & VR as a main focus.

This report focuses on AR and VR revenue projections in various sub-sectors and product areas. *ARtillery Intelligence* has built financial models that are customized to the specific dynamics and unit economics of each. These include variables like unit sales, company revenues, pricing trends, market trajectory and several other micro and macro factors that *ARtillery Intelligence* tracks.

This approach combines *top-down* and *bottom-up* forecasting methodologies.. Together, confidence is achieved through triangulating revenues and projections in a disciplined way. For more information on what's included and not included in the forecast (a key consideration when evaluating the figures) see the corresponding slide in the introductory section of this report.

More about *ARtillery Intelligence*'s market-sizing credentials can be found at <http://www.mikebo.land/forecasting>

# DISCLOSURE AND ETHICS POLICY

*ARtillery* has no financial stake in the companies mentioned in this report, nor received payment for its production. With respect to market sizing, *ARtillery* remains independent of players and practitioners in the sectors it covers. It doesn't perform paid services or consulting for such companies, thus mitigating bias — real or perceived — in market sizing and industry revenue projections.

*ARtillery*'s disclosure and ethics policy can be seen in full at <https://artillery.co/about/disclosure-and-ethics-policy/>

# WHAT'S COVERED IN FORECAST

The market sizing figures in this report include consumer and enterprise AR and VR segments. These are each subdivided by several variables, such as **hardware** and **software**, as well as revenue categories like **advertising** (social AR lenses) and **location-based VR** (admissions).

VR hardware includes headsets and bundled input or tracking devices, but does *not* include gaming consoles, smartphones and PCs required to run some headsets. Similarly with AR, smart glasses are included in revenue projections, but mobile devices (such iPhone sales) are not.

## INCLUDED

**AR & VR Hardware:** e.g. Headsets, smart glasses

**Bundled Hardware:** e.g. Input or tracking devices

**AR & VR Software:** e.g. Consumer (apps, in-app purchases), Enterprise (AR productivity software, retail installations)

**AR & VR Advertising:** e.g. Display (Snapchat Lenses), and Search (Google Lens) ad placements

**Location Based VR:** (e.g. Admissions revenue)

## NOT INCLUDED\*

**PC or Gaming Consoles:** e.g. Playstation 4

**Smartphones:** e.g. iPhone to run ARkit apps

**Professional Services:** e.g. Enterprise XR consulting

**Game/app creation:** e.g. Development costs, salaries

**Advertising creation:** Creative production costs

**VR Cameras:** e.g. 360 degree camera hardware

**eCommerce:** Value of goods bought through AR & VR interfaces (e.g. cost of a new couch bought or influenced through the IKEA Place app).



# CONTACT & REFERENCE

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